



AUBURN UNIVERSITY

Auburn, Alabama

LAND GRANT
State College

1959-60 CATALOG NUMBER
With Announcements for 1960-61

CONTENTS

College Calendar	2-3
Trustees, Councils and Committees	4
Officers of Administration	6
Officers of Instruction	8
General Information	59
School of Agriculture	97
School of Air Science	110
School of Architecture and The Arts	113
School of Chemistry	126
School of Education	131
Division of Engineering	146
School of Home Economics	162
School of Military Science and Tactics	166
School of Naval Science	169
School of Pharmacy	173
School of Science and Literature	176
School of Veterinary Medicine	184
Graduate School	188
Auburn Research Foundation	190
Extension Teaching Service	192
Educational Television	193
Library Facilities	194
Description of Courses by Departments	195
Enrollment Statistics	321
General Index	329

Auburn University Bulletin

Published four times yearly (February, March, May, June) by Auburn University, Auburn, Ala. Entered as Second-Class Matter at the Post Office at Auburn, Ala., under the Act of August 24, 1912.

VOL. 55

MARCH 1960

NO. 2

1960

JULY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST

1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

SEPTEMBER

		1	2	3		
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

OCTOBER

						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

NOVEMBER

		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

DECEMBER

		1	2	3		
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

COLLEGE CALENDAR

1960—Summer Quarter

June 13-14, Monday and Tuesday	Registration
June 15, Wednesday, 7:00 a.m.	Classes begin
June 15-18, Wednesday-Saturday	Special exams
June 16, Thursday	Last day for term registration
June 16-17, Thursday and Friday	Change-in-registration period
June 17, Friday	Last day for registering or adding courses
June 18, Saturday, 7:00 a.m. to 10:00 p.m.	Classes (Monday schedule)
July 4, Monday	Independence Day (holiday)
July 19, Tuesday	Final examinations first term; registration second term
July 20, Wednesday	Classes begin
July 25, Monday	Reporting of mid-quarter deficiencies
August 20, Saturday, 7:00 a.m. to 10:00 p.m.	Classes (Tuesday schedule)
*August 23-25, Tuesday through Thursday	Final examinations for quarter
August 24, Wednesday	Final examinations
August 26, Friday	Graduation exercises

1960—Fall Quarter

September 18, Sunday 4:00	Freshmen report for orientation
September 20-23 Tuesday-Friday	Registration
September 26, Monday, 7:00 a.m.	Classes begin
September 26-29, Monday through Thursday	Special examinations
September 27-28, Tuesday and Wednesday	Change-in registration period
September 28, Wednesday	Last day for new registrations
October 25, Tuesday	General Faculty Meeting
November 1, Tuesday	Reporting of mid-quarter deficiencies
November 23-27, Wednesday noon through Sunday	Thanksgiving recess
November 28-30, Monday noon through Wednesday	Pre-registration for Winter Quarter
*December 8-14, Thursday through Wednesday	Final examinations
December 15, Thursday	Graduation exercises

1961—Winter Quarter

January 2-3, Monday and Tuesday 7:30 a.m. to 4:30 p.m.	Registration
January 4, Wednesday, 7:00 a.m.	Classes begin
January 4-7, Wednesday through Saturday	Special examinations
January 5-6, Thursday and Friday	Change-in-registration period
January 6, Friday	Last day for new registrations
January 7, Saturday, 7:00 a.m. to 10:00 p.m.	Classes (Tuesday schedule)

* Approved group exams limited to 4 days prior to this date.

COLLEGE CALENDAR

1961

February 4, *Saturday*, 7:00 a.m. to 10:00 p.m.-----
 Classes (Monday schedule)
 February 8, *Wednesday*-----Reporting of
 mid-quarter deficiencies
 February (dates to be announced)-----Religious
 Emphasis Week
 February 20-22, *Monday* noon through *Wednes-*
day-----Pre-registration for Spring Quarter
 March 4, *Saturday*, 7:00 a.m. to 10:00 p.m.-----
 Classes (Friday schedule)
 *March 10-14, *Friday-Tuesday*-----Final exams
 March 14, *Tuesday*-----Graduation exercises

1961—Spring Quarter

March 21-22, *Tuesday* and *Wednesday*, 7:30 a.m.
 to 4:30 p.m.-----Registration
 March 23, *Thursday*, 7:00 a.m.-----Classes begin
 March 23-27, *Thursday-Monday*-----Special exams
 March 24-27, *Friday* and *Monday*-----Change-in-
 registration period
 March 25, *Saturday*, 7:00 a.m. to 10:00 p.m.-----
 Classes (Tuesday schedule)
 March 27, *Monday*-----Last day for new registrations
 April 15, *Saturday*-----Village Fair
 April 22, *Saturday*, 7:00 a.m. to 10:00 p.m.-----
 Classes (Monday schedule)
 April 25, *Tuesday*-----General Faculty Meeting
 April 28, *Fri.*-----Reporting mid-quarter deficiencies
 May 3-5, *Wednesday* through *Friday*-----
 Pre-registration for Summer Quarter
 May 27, *Saturday*, 7:00 a.m. to 10:00 p.m.-----
 Classes (Wednesday schedule)
 *May 29-June 1, *Monday* through *Thursday*-----
 Final examinations
 June 2, *Friday*-----Graduation exercises

1961—Summer Quarter

June 12-13, *Monday* and *Tuesday*-----Registration
 June 14, *Wednesday*, 7:00 a.m.-----Classes begin
 June 14-17, *Wednesday-Saturday*-----Special exams
 June 15, *Thursday*-----Last day for term registrations
 June 15-16, *Thursday* and *Friday*-----Change-in-
 registration period
 June 16, *Friday*-----Last day for regis-
 tering or adding courses
 June 17, *Saturday*, 7:00 a.m. to 10:00 p.m.-----
 Classes (Monday schedule)
 July 17, *Monday*-----Final examinations first term;
 registration for second term
 July 18, *Tuesday*-----Classwork begins second term
 July 21, *Fri.*-----Reporting mid-quarter deficiencies
 August 19, *Saturday*, 7:00 a.m. to 10:00 p.m.-----
 Classes (Tuesday schedule)
 *August 21-23, *Monday* through *Wednesday*-----
 Final examinations for quarter
 August 22, *Tuesday*-----Final examinations, 2nd term
 August 24, *Thursday*-----Graduation exercises

* Approved group exams limited to 4 days prior to this date.

JANUARY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

FEBRUARY

	1	2	3	4
5	6	7	8	9
10	11	12	13	14
15	16	17	18	19
20	21	22	23	24
25	26	27	28	

MARCH

	1	2	3	4
5	6	7	8	9
10	11	12	13	14
15	16	17	18	19
20	21	22	23	24
25	26	27	28	29
30	31			

APRIL

						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

MAY

	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

JUNE

			1	2	3
4	5	6	7	8	9
10	11	12	13	14	15
16	17	18	19	20	21
22	23	24	25	26	27
28	29	30			

Trustees

His Excellency, JOHN PATTERSON, Governor, Chairman Ex-Officio
FRANK R. STEWART, State Superintendent of Education Ex-Officio

Term Expires 1963

E. A. ROBERTS (*First District*) Mobile
W. J. FORRESTER (*Third District*) Dothan
G. H. WRIGHT (*Third District*) Auburn
FRANK P. SAMFORD (*Ninth District*) Birmingham

Term Expires 1967

E. L. WYNN (*Fourth District*) Ashland
M. H. MOSES (*Fifth District*) Fyffe
PAUL S. HALEY (*Seventh District*) Jasper

Term Expires 1971

R. C. BAMBERG (*Sixth District*) Uniontown
REDUS COLLIER (*Eighth District*) Decatur
JOHN W. OVERTON (*Second District*) Montgomery

BERTA DUNN, *Secretary*

1 1 1

Council and Committees

1960-1961

ADMINISTRATIVE COUNCIL

The President, Executive Vice President, Assistant to the President, Dean of Faculties, Director of Extension Service, Director of Experiment Station System, Director of Buildings and Grounds, Business Manager, Director of Public Information, Alumni Secretary.

COUNCIL OF DEANS

The President, Executive Vice President, Dean of Faculties Huntley (Chairman), Deans Allen, Cater, Coker, Greene, Hurst, Parker, Pierce, Pumphrey, Saunders, Smith, Spidle; Colonels Crosthwait, Dunlap, Lockett; Messrs. Cantrell, Foy, C. W. Edwards.

GRADUATE COUNCIL

Draughon, Huntley, Ex-Officio, W. V. Parker (Chairman), Bailey, Earl I. Brown, II, L. P. Burton, Dalton, D. E. Davis, Hurst, Kosolapoff, W. L. Miller, Patrick, T. M. Pierce, Rea, Rouse, Vallery, Ruth Brittin (Secretary).

COMMITTEES

Athletics—

Allen, C. L. Adams, W. S. Bailey, W. T. Ingram, Sarver, C. R. Saunders, Simmons.

Calendar Committee—

C. W. Edwards, Saunders, Beard, Hurst, Lanham.

Campus Planning Committee—

Funchess, W. T. Ingram, F. M. Orr, Earl I. Brown, II, E. V. Smith.

Class Schedules—

C. W. Edwards, Anson, Patrick, C. R. Saunders, Simmons, Clercie Edwards, Wade.

Concessions Board—

O. W. Bickel, Cater, A. A. Miller, Norton.

Courses and Curricula—

M. C. Huntley, C. H. Cantrell, C. W. Edwards, W. V. Parker, C. R. Saunders.

Discipline Committee—

For Men: Vallery, C. R. Saunders, E. V. Smith, Crosthwait.
 Student Members: Phil O'Berry, Bill Ham (Alternate).
 For Women: K. Cater, Jeannetta Land, Mary George Lamar.

Editorial Advisory—

Brackeen, Beckwith, Chesnutt, Faulkner, Roden, Roy.

Exchange Fellowships—

M. C. Huntley, Current-Garcia, C. R. Saunders.

Fraternities—

Beard, Cater, Foy, Kern.

Health—

M. W. Brown, Foy, Jeannetta Land, Umbach.

Honor Societies—

Allen, Irvine, F. M. Orr.

Lectures and Concerts—

Cater, Beard, Brackeen, Cargile, Durrett, Huntley, Kendrick, Liverman, Orr, Peet, Three Student Members.

Library—

Cantrell, Allen, Hahn, Hannum, Hocking, Kuderna, J. E. Land, Ottis, Spencer, Sykes.

Orientation—

C. W. Edwards, O. W. Bickel, Foy, Cantrell, Cater, J. M. Richardson, Clercie Edwards, H. F. Vallery.

Portrait Committee—

Sarver, Applebee, Funchess, Berta Dunn, Pattie Haney, A. W. Reynolds.

Professional Societies—

E. V. Smith, Foy, Hargreaves, Spann.

Religious Life—

J. M. Richardson, W. S. Bailey, Cantrell, Dendy, Edwards, Gibbons, Grant, Irvine, Kuderna, J. R. Moore.

Registration—

C. W. Edwards, Anson, Applebee, McIntosh, Coker, Ruth Brittin, Morrissey, Cargile, Foster, Jeannetta Land, W. V. Parker, Patrick, DeWitt Mullins, Tyson, Simmons, Clercie Edwards, Spencer, Wade, Wingate, Umbach, Tincer, Weilmuenster.

Research Committee—

McIntyre, W. V. Parker (ex-officio), Kendrick, McCann, Ottis, T. B. Peet, C. R. Saunders, Spencer, Ernest Williams, E. I. Brown.

Scholarship—

Greene, E. I. Brown, Cargile, Cater, Norton, Sturkie, Mrs. Robert L. Chesnutt (Secretary).

Social Life—

Cater, Beard, Frank Davis, Foy, Lamar, Jeannetta Land.

Student Publications—

Foy, Brackeen, Burnett, W. T. Ingram, Five student members.

Students Use of English—

The Deans and the Head of the English Department.

Traffic Committee—

Funchess, R. G. Pitts, S. L. Thompson, Wilson, Bickel, Three student members.

Women Students—

Cater, Spidle.

AUBURN UNIVERSITY

OFFICERS OF ADMINISTRATION

1959-1960

(The first date after the title indicates the year of first appointment to any position in the institution; the second, the year of appointment to present rank.)

DRAUGHON, RALPH BROWN, B.S., M.S., LL.D. *President*, 1931, 1948
MULLINS, DAVID W., B.A., M.A., Ed.D. *Executive Vice-President*, 1941, 1949
Resigned effective March 1, 1960.

GENERAL OFFICERS

HUNTLEY, MICHEL C., B.A., M.A., LL.D., Litt.D. *Dean of Faculties*, 1949
BEARD, G. W. (JEFF), B.S. *Director of Athletics*, 1937, 1951
BRACKEEN, L. O., B.S. *Director of Public Information*, 1934, 1948
BROWN, MORGAN W., B.S., M.D. *Medical Director, Student Health*, 1950
CANTRELL, CLYDE HULL, A.B., M.A., A.B.L.S. *Director of Libraries*, 1944
CATER, KATHARINE COOPER, A.B., M.A., M.S., Litt.D. *Dean of Women*
and *Social Director*, 1946
EDWARDS, CHARLES WESLEY, B.S., M.A. *Registrar*, 1927, 1938
FOY, JAMES E., B.A., M.A. *Director of Student Affairs*, 1950, 1952
FUNCHESS, LINWOOD E., B.S., M.S. *Director of Buildings and Grounds*, 1957
GEARING, CHARLES E., B.E.E. *Director of Engineering Extension*, 1958
INGRAM, WILLIAM TRAVIS *Business Manager and Treasurer*, 1925, 1953
JONSON, W. C. JR., B.S. *Director of Auburn Research Foundation*, 1956, 1959
NORTON, PAUL MADDUX, A.B., M.S. *Coordinator of Veterans Affairs*, 1945
PIERCE, TRUMAN M., Ph.B., M.A., Ph.D. *Acting Director of*
Extension Teaching, 1956
POORE, WILLIAM D., B.S., M.A. *Director, Nonacademic Personnel*, 1957
SARVER, JOSEPH B., B.S. *Executive Secretary, Alumni Association*, 1951
VALLERY, H. F., B.A., M.A., M.A., Ed.D. *Supervisor, Student*
*Guidance Service, *Assistant to the President*, 1951, 1960

DEANS AND HEADS OF SCHOOLS

ALLEN, ROGER WILLIAMS, B.S., M.S., M.A., Ph.D. *Dean, School of*
Science and Literature, 1928, 1941
BROWN, EARL I. II, B.S.C.E., M.S.C.E., Ph.D. *Assistant Dean,*
School of Engineering, 1954, 1958
COKER, SAMUEL TERRY, B.S., M.S., Ph.D. *Dean of Pharmacy*, 1959
CROSTHWAIT, S. L., Col., USAF, B.S., M.S. *Professor of Air Science and*
the Commandant, 1956
DUNLAP, JOHN F., Col., USMC, B.S. *Professor of Naval Science and*
the Commanding Officer, 1959
GREENE, JAMES E., D.V.M., M.S. *Dean, School of Veterinary Medicine*, 1937, 1958

* Temporary

HANNUM, JOSHUA EYRE, B.S., M.E.	Dean Emeritus, School of Engineering,	1938, 1958
HURST, SAMUEL T., B.S., M.A.	Dean, School of Architecture and The Arts,	1957
LOCKETT, JOHN, Col., Artillery, Ph.B.	Professor, Military Science and Tactics, and the Commandant,	1957
PARKER, WILLIAM VANN, A.B., M.A., Ph.D.	Dean, Graduate School,	1950, 1953
PIERCE, TRUMAN M., Ph.B., M.A., Ph.D.	Dean, School of Education,	1955
PUMPHREY, FRED H., B.A., B.E.E., E.E.	Dean, School of Engineering,	1958
SAUNDERS, C. R., B.S., M.S., Ph.D.	Dean, School of Chemistry,	1924, 1950
SIMMONS, CHARLES F., B.S., M.S., Ph.D.	Associate Dean, School of Agriculture,	1946, 1951
SMITH, EDWIN VIRGINIUS, B.S., M.S., Ph.D.	Dean, School of Agriculture,	1929, 1951
SPIDLE, MARION WALKER, B.S., M.A.	Dean, School of Home Economics,	1938, 1942
WILSON, COYT T., B.S., M.S., Ph.D.	Assistant Dean, School of Agriculture,	1938, 1951

AGRICULTURAL EXPERIMENT STATION

SMITH, EDWIN VIRGINIUS, B.S., M.S., Ph.D.	Director,	1929, 1951
WILSON, COYT T., B.S., M.S., Ph.D.	Associate Director,	1938, 1955
SIMMONS, CHARLES F., B.S., M.S., Ph.D.	Assistant Director,	1946, 1955

ENGINEERING EXPERIMENT STATION

PUMPHREY, FRED H., B.A., B.E.E., E.E.	Director,	1958
BROWN, EARL I. II, B.S.C.E., M.S.C.E., Ph.D.	Assistant Director,	1954, 1958

AGRICULTURAL AND HOME ECONOMICS EXTENSION

YORK, E. T., B.S., M.S., Ph.D.	Director of Agricultural Extension Service,	1959
ROBERTSON, FRED R. JR., B.S., M.S., DPA	Assistant Director of Agricultural Extension Service,	1959
COLEMAN, MARY E., B.S., M.S.	State Home Demonstration Agent,	1936, 1958

EDUCATIONAL TELEVISION

WEGENER, E. P., B.S.	Director, Educational Television,	1954
----------------------	-----------------------------------	------

OFFICERS OF INSTRUCTION

1959-1960

(The first date after the title indicates the year of first appointment to any position in the institution; the second, the year of appointment to present rank. Effective date of resignation shown only for persons whose names were not carried in a previous catalog.)

- DRAUGHON, RALPH BROWN, B.S., M.S., LL.D. _____ *President*, 1931, 1948
- MULLINS, DAVID W., B.A., M.A., Ed.D. _____ *Executive Vice-President*, 1941, 1949
- HUNTLEY, MICHEL C., B.A., M.A., LL.D., Litt.D. _____ *Dean of Faculties*, 1949
- ABNEY, LOUIS O. _____ *Associate Professor of Art*, 1950, 1959
B.App.Art, M.App.Art, Auburn University.
- ADAMS, CLEVELAND L. _____ *Head Professor of Textile Technology*, 1952
B.T.E., Auburn University.
- ADAMS, FRED _____ *Associate Professor of Soils*, 1955
B.S., M.S., Louisiana State; Ph.D., California.
- *ALFORD, WILLIAM L. _____ *Associate Research Professor of Physics*, 1952, 1955
A.B., Vanderbilt; M.S., Ph.D., California Institute of Technology.
- *ALLISON, ELEANOR _____ *Instructor in Mathematics*, 1953, 1958
B.S., Western Carolina College; M.S., Auburn University.
- *ALVORD, MARY K. _____ *Instructor in Mathematics*, 1942
B.S., Illinois.
- AMACHER, RICHARD E. _____ *Associate Professor of English*, 1957
A.B., Ohio; Ph.D., Pittsburgh.
- AMLING, HARRY J. _____ *Associate Professor of Horticulture*, 1959
B.S., Rutgers; M.S., Delaware; Ph.D., Michigan State.
- ANDERSON, ROBERT GRAHAM _____ *Assistant Professor of Architecture*, 1958
B.Arch., North Carolina State; M.Arch., Harvard.
- ANSON, CHARLES P. _____ *Head Professor of Economics, Business Administration and Sociology*, 1946
B.S., Wisconsin; M.A., Ohio State; Ph.D., North Carolina.
- ANTHONY, WILSON B. _____ *Professor of Animal Nutrition*, 1953, 1955
B.S., Illinois; M.S., Texas A. & M.; Ph.D., Cornell.
- APPLEBEE, FRANK W. _____ *Head Professor of Art*, 1926, 1932
Diploma, Massachusetts School of Art; B.S., M.App.Art, Auburn University.
- ARANT, FRANK S. _____ *Head Professor of Zoology and Entomology*, 1926, 1949
B.S., M.S., Auburn University; Ph.D., Iowa State.
- ARNOLD, DOROTHY DEAN _____ *Associate Professor of Home Economics*, 1928, 1957
B.S., Peabody; M.A., Columbia.
- ARTHUR, B. WAYNE _____ *Assistant Professor of Zoology-Entomology*, 1951, 1957
B.S., M.S., Auburn University; Ph.D., Wisconsin.
- ATKINS, ALWYN J. _____ *Associate Professor of Education*, 1956
B.S., Chattanooga; M.S., Ph.D., North Carolina.
- ATKINS, GEORGE A. _____ *Instructor in Men's Physical Education*, 1956
B.S., Auburn University.
- ATTLEBERGER, FREDERICK RAYMOND _____ *Instructor in Laboratory Technology*, 1941, 1944
M.T., Franklin School of Science and Arts.
- ATTLEBERGER, MARIE H. _____ *Associate Professor of Bacteriology*, 1949, 1959
D.V.M., M.S., Auburn University.
- AUTREY, KENNETH MAXWELL _____ *Head Professor of Dairy Husbandry*, 1947
B.S., Louisiana State; M.S., Ph.D., Iowa State.
- BAGWELL, JAMES E. _____ *Assistant Professor of Economics and Business Administration*, 1950, 1956
B.S., M.S., North Carolina.
- BAILEY, WILFORD S. _____ *Head Professor of Pathology and Parasitology*, 1942, 1950
D.V.M., M.S., Auburn University; D.Sc., Johns Hopkins.

* Temporary.

** On leave.

- BAKER, JUNE MARSHALL.....Associate Professor of Chemistry, 1957
B.S., Missouri Valley College; M.S., Ohio State; Ph.D., Missouri.
- BALL, RICHARD WILLIAM.....Associate Professor of Mathematics, 1954, 1956
B.A., M.A., Ph.D., Illinois.
- BALL, RURA O.....Assistant Professor of Engineering Graphics, 1958, 1959
B.S.M.E., Illinois.
- *BANKS, DONALD JACK.....Instructor in Agronomy, 1958
B.S., M.S., Oklahoma State.
- BARKER, ADDISON R.....Instructor in English, 1956
A.B., High Point College; M.A., Carolina.
- BARKER, TROY A.....Assistant Professor of Military Science and Tactics, 1959
B.S., Alabama; Lieutenant Colonel, Artillery.
- BARKSDALE, JELKS.....Associate Professor of Chemistry, 1946, 1957
B.S., M.S., Alabama; Ph.D., Columbia.
- BARKSDALE, ROBBIE A.....Catalog Librarian and Instructor, 1949, 1959
A.B., Alabama College; B.S.L.S., M.S.L.S., Columbia.
- *BARNETT, BILL M.....Instructor in English, 1957, 1958
B.A., Auburn University.
- BARRETT-LENNARD, G. T.....Assistant Professor of Psychology, 1959
B.S., B.A., University of Western Australia; Ph.D., Chicago.
- BASKERVILL, MARGARET.....Assistant Professor of Mathematics, 1943, 1959
A.B., Randolph-Macon; M.A., Michigan; Ph.D. Auburn University.
- BASORE, CLEBURNE A.....Head Professor of Chemical Engineering, 1920, 1938
B.S., M.S., Auburn University; M.A., Michigan; Ph.D., Columbia.
- BASS, MAX H.....Instructor in Zoology, 1957, 1959
B.S., Troy State College; M.S., Auburn University.
- *BASS, MERLE F.....Instructor in Mathematics, 1957, 1958
B.S., Troy State College; M.S., Auburn University.
- BEARD, G. W. (JEFF).....Head Professor of Physical Education, 1937, 1951
B.S., Auburn University.
- BECK, ESTHER L.....Assistant Professor of Economics and
B.A., Illinois; M.A., Columbia. Business Administration, 1950, 1955
- BECKING, RUDOLF W.....Associate Professor of Forestry, 1958
Ir.B., Ir.Tr.B., Agricultural University (Wageningen, Netherlands); Ph.D., Washington.
- BELCHER, OBA B.....Instructor in Men's Physical Education, 1959
B.S., Florence State College.
- BELSER, THOMAS ARVIN JR.....Assistant Professor of History, 1957
B.A., M.A., Ph.D., Vanderbilt.
- BENNETT, JOSEPH GARDNER.....Professor of Mechanical Engineering, 1957
B.S.C.E., Cornell College, Iowa; B.S.C.E., Wisconsin.
- BENSON, CARL.....Associate Professor of English, 1947, 1952
B.A., M.A., Texas; Ph.D., Illinois.
- BENTLEY, CHARLES A.....Associate Professor of Music, 1949, 1957
B.S., Baldwin-Wallace; M.A., Professional Diploma "Specialist in Music Education," Columbia.
- BILLS, ROBERT E.....Head Professor of Psychology, 1956
B.S., Western Kentucky State; M.A., Kentucky; Ed.D., Teachers College, Columbia.
- *BINKLEY, ADDISON LARRY.....Instructor in Mathematics, 1959
B.A., Lambuth College.
- BLACKSTONE, J. HOMER.....Professor of Agricultural Economics, 1938, 1953
B.S., M.S., Auburn University.
- BLAKE, GEORGE H., JR.....Associate Professor of Zoology-Entomology, 1947, 1957
B.S., M.S., Auburn University; Ph.D., Illinois.
- BLAKNEY, WILLIAM G. G.....Assistant Professor of Civil Engineering, 1958
B.E., Nova Scotia Technical College; M.Sc., Ohio State.
- BLISS, LEORA B.....Assistant Professor in Home Economics, 1957
B.S., Kansas State; M.S., Oregon State.

* Temporary.

- BLISS, R. L. _____ *Assistant Professor of Sociology, 1957, 1959*
B.A., Mount Union College; M.S., Kentucky.
- BLUE, NOEL D. _____ *Instructor of Naval Science, 1957*
Fire Control Technician First Class (SS), U.S. Navy.
- **BOSTON, ROBERT O. _____ *Associate Professor of Economics and*
B.S., M.S., Alabama. *Business Administration, 1950, 1959*
- BOTTOMS, DAVID NEWTON. _____ *Associate Professor of Agricultural Education, 1941, 1947*
B.S., M.S., Auburn University.
- BOUWER, HERMAN. _____ *Associate Professor of Agricultural Engineering, 1953, 1959*
B.S., M.S., Dutch State Agricultural University; Ph.D., Cornell.
- BRADBERRY, GEORGE _____ *Instructor in Men's Physical Education, 1951*
B.S., Georgia.
- BRADLEY, DAVID W. _____ *Assistant Professor of Naval Science, 1959*
B.A., Princeton; Lieutenant, U.S. Naval Reserve.
- BRAY, DONALD LEON. _____ *Instructor in Civil Engineering, 1958*
B.C.E., Auburn University.
- BREYER, BERNARD R. _____ *Associate Professor of English, 1949, 1955*
B.A., Vanderbilt; M.A., Louisiana State; Ph.D., Virginia.
- BRINEY, JAMES R. III. _____ *Instructor in Industrial Management, 1959*
B.S., Auburn University.
- BRISSON, DAVID WINSLOW. _____ *Assistant Professor of Architecture, 1958*
B.F.A., Rhode Island School of Design; M.F.A., Ohio.
- *BRISSON, HARRIET ELDREDGE _____ *Instructor in Architecture, 1958*
B.F.A., Rhode Island School of Design; M.F.A., Ohio.
- BRITTIN, NORMAN A. _____ *Professor of English, 1948, 1954*
A.B., A.M., Syracuse; Ph.D., Washington.
- BROKAW, MARY K. _____ *Catalog Librarian and Instructor, 1957, 1959*
A.B., Ohio; M.A., Chicago; B.S.L.S., Drexel Institute of Technology.
- BROWN, EDNA EARLE _____ *Serials Librarian and Instructor, 1952, 1959*
A.B., Peabody College for Teachers; B.S.L.S., Illinois.
- *BROWN, HELEN WEAVER _____ *Instructor in Economics and Business*
B.S., Alabama College. *Administration, 1959*
- *BRYAN, ERNEST CARY _____ *Instructor in Mechanical Engineering, 1958*
B.M.E., Auburn University.
- BRYANT, WARD TILLEY _____ *Assistant Professor of Industrial Management, 1951, 1953*
B.I.M., Auburn University; M.S., Georgia Tech.
- BUDENSTEIN, PAUL P. _____ *Assistant Research Professor of Physics, 1958*
B.A., Temple; M.S., Ph.D., Lehigh.
- BUNGER, WILLIAM B. _____ *Associate Research Professor of Chemistry, 1949, 1957*
B.S., Washburn; M.S., Ph.D., Kansas State.
- BURGE, JOHN L. _____ *Assistant Professor of Economics and*
B.A., Mercer; M.B.A., Georgia. *Business Administration, 1956, 1957*
- BURKHARDT, E. WALTER _____ *Professor of Architecture, 1929*
B.S.Arch., Washington State; M.S.Arch., Columbia.
- BURNETT, PAUL C. _____ *Associate Professor of Journalism, 1948, 1954*
B.A., Louisiana Polytechnic Institute; M.A., Louisiana State.
- BURNS, MOORE J. _____ *Associate Professor of Physiology and Pharmacology, 1950, 1956*
B.S., M.S., Auburn University; Ph.D., Purdue.
- BURTON, LEONARD PATILLO _____ *Associate Professor of Mathematics, 1954, 1956*
A.B., M.A., Alabama; Ph.D., North Carolina.
- BUTLER, ALLEN DEXTER _____ *Assistant Professor of English, 1927, 1955*
A.B., M.A., North Carolina.
- BUTZ, ROBERT K. _____ *Associate Professor of Mathematics, 1950, 1958*
B.S., Colorado State; M.S., Ph.D., Georgia.
- CAIRNS, ELTON J. _____ *Professor of Plant Pathology, 1954, 1955*
B.A., M.A., California (Los Angeles); Ph.D., Maryland.

* Temporary.

** On leave.

- CALLAWAY, A. BYRON.....Associate Professor of Education, 1956
A.B., B.S., Southwest Missouri State College; M.Ed., Ed.D., Missouri.
- *CANNON, LENA.....Assistant Professor of Home Economics, 1948, 1953
B.S., M.S., West Virginia.
- CANNON, ROBERT Y.....Associate Professor of Dairy Husbandry, 1948, 1949
B.S., Iowa State; M.S., Ohio State; Ph.D., Wisconsin.
- CANTRELL, CLYDE HULL.....Director of Libraries and Professor, 1944, 1959
A.B., M.A., A.B.L.S., North Carolina.
- CANTY, DONALD J.....Instructor in Speech, 1958
B.A., Adelphia College; M.A., Missouri.
- CAPPS, JULIUS D.....Research Professor of Chemistry, 1934, 1953
B.S., M.S., Auburn University; Ph.D., Nebraska.
- *CARAWAY, THELMA JOYCE.....Instructor in Mathematics, 1959
A.B., Alabama College; M.A., Arkansas.
- CARLOVITZ, GILES HOMER.....Professor of Electrical Engineering, 1928, 1934
B.E.E., E.E., Auburn University.
- *CARPENTER, BILL B.....Instructor in Economics and Business Administration, 1958
B.S., Tennessee.
- CARR, HOWARD E.....Head Professor of Physics, 1948, 1953
B.S., Auburn University; M.A., Ph.D., Virginia.
- CARRUTH, SARA ANDERSON.....Assistant Professor of English, 1952, 1958
A.B., North Carolina; M.A., Ph.D., Chicago.
- CHADWICK, JAMES H.....Associate Professor of Electrical Engineering, 1949
B.S., U.S. Naval Academy; M.S.E.E., Columbia.
- CHASTAIN, ELIJAH D. JR.....Associate Professor of Agricultural Economics, 1956
B.S., Clemson; M.S., Cornell; Ph.D., Purdue.
- *CHENEY, ILA S.....Instructor in English, 1957, 1959
B.A., Union University.
- CHENEY, LOUIS T.....Instructor in Art, 1957
B.F.A., Washington.
- CHERRY, JAMES McEWEN, JR.....Order Librarian and Instructor, 1957, 1959
A.B., Vanderbilt; M.A.L.S., Peabody College for Teachers.
- CHRISTEN, HAROLD EDWIN.....Professor of Forestry, 1946, 1951
B.S., Connecticut; M.F., Yale.
- *CLANTON, DORIS D.....Instructor in English, 1957, 1958
B.S., College of Charleston; M.A., Auburn University.
- CLARK, C. H.....Head Professor of Physiology and Pharmacology, 1953
B.S., D.V.M., Washington State; M.Sc., Ph.D., Ohio State.
- COBB, CHARLES N.....Associate Professor of Industrial Management, 1930, 1944
B.S., Clemson; B.I.E., M.S., Auburn University.
- COBB, HOWELL EDWARD.....Associate Professor of Architecture, 1954
B.S.Arch., B.Arch., Georgia Institute of Technology; M.S.Arch., Kansas State.
- COLLINS, BASIL K.....Associate Professor of Engineering Graphics, 1936, 1955
B.S., B.M.E., M.S., Auburn University.
- COLLINS, JAMES ROBERT.....Assistant Professor of Music, 1957
B.S., M.A., Alabama.
- COLLINS, ROBERT T.....Professor of Economics & Business Administration, 1952, 1957
B.S.C., Iowa; M.A., Ph.D., Southern California.
- CONNALLY, JOSEPH.....Instructor in Men's Physical Education, 1952
B.S., Georgia.
- CONSOLVO, JOHN W.....Assistant Professor of Military Science and Tactics, 1958
B.A., Virginia Military Institute; Major, Armor.
- *COOK, CAMILLE W.....Instructor in Economics and Business Administration, 1948
A.B., LL.B., Alabama.
- COOK, J. SYDNEY JR.....Assistant Professor of Economics and Business
Administration, 1947, 1948
B.S., Auburn University; LL.B., Alabama.

* Temporary.

- COOPER, ARTHUR WIGGINS.....*Research Lecturer, Agricultural Engineering*, 1939, 1957
B.S., M.S., Auburn University; Ph.D., Michigan State.
- *COPAS, RICHARD L.....*Instructor in Men's Physical Education*, 1959
B.S., Auburn University.
- COPPEDGE, WILLIAM H.....*Associate Professor of Industrial Management*, 1928, 1944
B.S., Oklahoma A. & M.; M.S., Auburn University.
- *CORRIGAN, WALTER PHILIP.....*Assistant Professor of Economics and Business Administration*, 1958
B.B.A., M.A., Miami.
- COTTIER, GEORGE JOHN.....*Professor of Poultry Husbandry*, 1930, 1949
B.S., D.V.M., Auburn University; M.A., Missouri.
- COX, JAMES H.....*Assistant Professor of Textile Technology*, 1957
B.S.T.C., M.S.T., Georgia Tech.
- COX, JULIUS GRADY.....*Associate Professor of Mechanical Engineering*, 1957
B.M.E., M.S., Auburn University.
- CRAFTS, ARTHUR G.....*Assistant Professor of Physics*, 1944
A.B., Georgia; M.S., Cornell.
- CRAWFORD, RICHARD P.....*Instructor of Bacteriology*, 1957
D.V.M., Texas A. & M.
- CREWS, ROBERT T.....*Instructor in Laboratory Technology*, 1959
B.S., Auburn University.
- CROSTWAIT, S. L.....*Professor of Air Science*, 1956
B.S., M.S., U. of Maryland; Colonel, United States Air Force.
- CULVER, HUBERT R.....*District Supervisor of Vocational Agriculture and Itinerant Teacher Trainer*, 1945, 1958
B.S., M.S., Auburn University.
- CURL, ELROY ARVEL.....*Associate Professor of Plant Pathology*, 1954, 1958
B.S., Louisiana Polytechnic Institute; M.S., Arkansas; Ph.D., Illinois.
- CURRENT-GARCIA, EUGENE.....*Professor of English*, 1947, 1952
B.A., M.A., Tulane; A.M., Ph.D., Harvard.
- DACRES, WILLIAM G.....*Professor of Bacteriology*, 1956, 1959
A.B., M.S., Tennessee; Ph.D., Rice Institute.
- DALTON, W. THEO.....*Head Professor of Elementary Education*, 1951, 1956
B.S., Alabama; M.Ed., Duke; Ph.D., George Peabody College for Teachers.
- DANNER, MAURICE J.....*Professor of Agricultural Economics*, 1943, 1957
B.S., Texas Tech; M.S., Tennessee.
- DARDEN, PAUL ALBERT.....*Assistant Professor of Building Technology*, 1958
B.Arch., Auburn University.
- DAVIS, DONALD E.....*Professor of Botany*, 1947, 1955
B.Ed., Ped.D., Eastern Illinois State Teachers College; M.S., Ph.D., Ohio State.
- *DAVIS, ELIZABETH.....*Instructor in Home Economics*, 1957
B.S., Colorado; M.S., Auburn University.
- DAVIS, FRANK B.....*Head Professor of Speech*, 1948, 1956
A.B., Hendrix; M.A., Iowa; Ph.D., Louisiana State.
- DAVIS, FRANKLIN L. JR.....*Instructor in Mechanical Engineering*, 1958
B.M.E., Auburn University.
- DAVIS, NORMAN DUANE.....*Assistant Professor of Botany*, 1958
B.S., Georgia; M.S., Ph.D., Ohio State.
- DAVIS, W. L.....*Head Professor, Secondary Education and Coordinator of Curriculum and Instruction*, 1951, 1958
B.S., Middle Tennessee Teachers; M.A., Peabody College for Teachers; Ed.D., Columbia.
- DAWSON, MARGARET.....*Instructor in Home Economics*, 1956
B.S., Florida State; M.S., Auburn University.
- DEAN, H. SHELBY.....*Assistant Professor of Building Technology*, 1954, 1956
B.Arch., Auburn University.
- DELONEY, JOHN E.....*Associate Professor of Agricultural Education*, 1950, 1954
B.S., M.S., Auburn University; Ed.D., Teachers College, Columbia.

* Temporary.

- *DENDY, JOHN S. _____ *Professor of Zoology and Entomology*, 1947, 1957
B.S., Presbyterian; M.A., North Carolina; Ph.D., Michigan.
- DEVALL, WILBUR B. _____ *Head Professor of Forestry*, 1946, 1951
B.S., Syracuse; M.S., Florida.
- DILWORTH, BEN P. _____ *District Supervisor of Vocational Agriculture and*
B.S., Mississippi State; M.S., Auburn University. *Itinerant Teacher Trainer*, 1946, 1958
- DIXON, JOE BORIS _____ *Assistant Professor of Soils*, 1959
B.S., M.S., Kentucky; Ph.D., Wisconsin.
- DJORDJEVIC, BRANIMIR D. _____ *Professor of Aeronautical Engineering*, 1959
Cand. Ing., Dipl. Ing., University of Belgrade.
- DONAHOO, HARRIETTE L. _____ *Associate Professor of Women's Physical*
B.S., Alabama College; M.A., Teachers College, Columbia. *Education*, 1943, 1949
- DONNELLY, EDWARD DANIEL _____ *Professor of Agronomy*, 1951, 1959
B.S., M.S., Auburn University; Ph.D., Cornell.
- DOOLEY, VINCENT J. _____ *Instructor in Men's Physical Education*, 1956
B.S., Auburn University.
- *DORMAN, COY _____ *Instructor in Economics and Business Administration*, 1959
A.B., East Carolina College; M.S., Tennessee.
- *DORNE', MELBA _____ *Instructor in Speech*, 1957
B.S., Western Kentucky State; M.Ed., Auburn University.
- DORNE', WILLIAM P. _____ *Assistant Professor of Education*, 1950, 1958
B.S., Rutgers; M.A., Columbia; Ph.D., Florida.
- DOUHTIT, BETTY ZANE _____ *Instructor in Women's Physical Education*, 1957
B.S., Alabama College; M.A., Indiana.
- DRAGOIN, ANTHONY _____ *Assistant Professor of Men's Physical Education*, 1951, 1955
B.S., M.S., Auburn University.
- DRAKE, ALBERT E. _____ *Associate Professor of Botany*, 1959
B.S., M.S., Kentucky; Ph.D., Illinois.
- DUMAS, WILLIAM T. JR. _____ *Associate Professor of Agricultural Engineering*, 1946, 1955
B.S., M.S., Auburn University.
- DUNLAP, JOHN F. _____ *Professor of Naval Science*, 1959
B.S., Clemson College; Colonel, U.S. Marine Corps.
- DUSI, JULIAN L. _____ *Associate Professor of Zoology and Entomology*, 1949, 1953
B.S., M.S., Ph.D., Ohio State.
- EAVES, JOEL H. _____ *Instructor in Men's Physical Education*, 1949
B.S., Auburn University.
- EDEN, WILLIAM G. _____ *Professor of Entomology*, 1940, 1953
B.S., M.S., Auburn University; Ph.D., Illinois.
- EDGAR, S. ALLEN _____ *Professor of Poultry Husbandry*, 1947, 1950
A.B., Sterling; M.S., Kansas State; Ph.D., Wisconsin.
- *ELDRIDGE, JAMES F. _____ *Assistant Professor of Foreign Languages*, 1957
B.A., Howard; M.A., Vanderbilt.
- ELIZONDO, YNDALECIO ANDRES _____ *Associate Professor of Mechanical*
B.C.E., B.M.E., M.S., Auburn University. *Engineering*, 1927, 1943
- ELLIS, HARRIET BOMAR _____ *Head, Acquisitions Dept. (Library,) and*
Assistant Professor, 1931, 1959
A.B., B.S., Judson; M.S., Auburn University; A.B.L.S., Michigan; M.S.L.S., Illinois.
- ELLISOR, MILDRED R. _____ *Assistant Professor of Education*, 1958
A.B., Huntingdon College; M.A., Ed.D., Columbia.
- *ELSASSER, DAVID S. _____ *Associate Professor of Small Animal Surgery*
D.V.M., Ohio State. *and Medicine*, 1959
- ENSMINGER, LEONARD E. _____ *Professor of Soils*, 1944, 1953
B.S., Missouri; Ph.D., Illinois.
- EVANS, DORIS _____ *Instructor in Economics and Business Administration*, 1959
B.S., Florence State College; M.A., Peabody.
- *EVANS, J. WAYNE _____ *Instructor in Mechanical Engineering*, 1957
B.C.E., B.M.E., Auburn University.

* Temporary.

** On leave.

- **EVANS, LAWRENCE E.**..... *Professor of Small Animal Surgery and Medicine*, 1955, 1959
D.V.M., M.S., Kansas State College.
- EVANS, ROBERT K.**..... *Associate Professor of Education and Director of Intramural Sports for Men*, 1942
B.S., M.S., North Carolina State.
- FARISH, PRESTON T.**..... *Assistant Professor of Animal Nutrition*, 1953, 1958
B.S., Troy State College; M.S., Ph.D., Auburn University.
- FAULK, RUTH T.**..... *Assistant Professor of English*, 1947, 1955
A.B., Huntingdon; M.A., Auburn University.
- FAULKNER, THURSTON LANIER**..... *State Supervisor of Vocational Agriculture*, 1941, 1957
B.S., Mississippi State; M.S., Auburn University.
- FEASTER, WILLIAM M.**..... *Assistant Professor of Electrical Engineering*, 1956, 1959
B.E.E., M.E.E., Auburn University.
- FINDLEY, MARSHALL E.**..... *Associate Research Professor of Chemical Engineering*, 1958
B.S., Texas A & M; M.S., Institute of Paper Chemistry; Ph.D., Florida.
- FISHER, HOMER S.**..... *Associate Professor of Ornamental Horticulture*, 1935, 1948
B.S., Auburn University; B.L.A., Massachusetts.
- FITZGERALD, THEODORE C.**..... *Head Professor of Anatomy and Histology*, 1940, 1948
D.V.M., M.S., Ohio State.
- FITZPATRICK, BEN JR.**..... *Assistant Professor of Mathematics*, 1952, 1959
B.S., Auburn University; M.A., Ph.D., Texas.
- *FITZPATRICK, MARJORIE**..... *Instructor in Mathematics*, 1952, 1959
B.S., Jacksonville State College.
- FOWLER, HOWARD GILL**..... *Assistant Professor of Industrial Management*, 1957
B.S., Tennessee Polytechnic Institute; M.Ed., Florida.
- FRANCIS, WILLIAM H.**..... *Head Professor of Engineering Graphics*, 1931, 1959
B.S., M.S., Auburn University.
- FRANKE, NORMAN H.**..... *Assistant Professor of Pharmacy*, 1954
B.S., Temple; M.S., Ph.D., Wisconsin.
- FREDERICK, BARBARA A.**..... *Assistant Professor of Psychology*, 1957
A.B., Western Michigan College of Education; M.A., Michigan.
- FRENCH, JOHN D.**..... *Assistant Professor of Physics*, 1958
B.S., M.S., Ph.D., Louisiana State.
- FRISBY, CARL**..... *Assistant Professor of Economics and Business Administration*, 1953, 1957
B.S., M.S., Auburn University.
- FRYMER, JACK**..... *Associate Professor of Education*, 1959
B.Ed., M.Ed., University of Miami; Ed.D., Florida.
- FURUTA, TOKUJI**..... *Associate Professor of Ornamental Horticulture*, 1951
B.S., M.S., Ph.D., Ohio State.
- GANDY, THOMAS W.**..... *Associate Professor of Agricultural Education*, 1950, 1953
B.S.A., Berry College; B.S., M.S., Auburn University; Ed.D., Illinois.
- GATEWOOD, JACK E.**..... *Assistant Professor of Air Science*, 1958
B.S., Florida; Captain, United States Air Force.
- *GEYER, CHARLES W.**..... *Instructor in English*, 1958, 1959
B.A., Augustana College.
- GIBBONS, WALTER J.**..... *Professor of Large Animal Surgery and Medicine, and Infectious Diseases*, 1947, 1955
D.V.M., M.S., Cornell.
- GIBSON, CLAUDE L.**..... *Instructor of Naval Science*, 1959
Chief Storekeeper, U.S. Navy.
- GIBSON, HOMER FRANKLIN**..... *District Supervisor of Vocational Agriculture and Itinerant Teacher Trainer*, 1937, 1958
B.S., M.S., Auburn University.
- GILDEA, RAY Y. JR.**..... *Assistant Professor of Economics and Business Administration*, 1959
B.S., Cornell; M.A., Virginia.
- GILL, WILLIAM ROBERT**..... *Research Lecturer, Agricultural Engineering*, 1957
B.S., Pennsylvania State; M.S., University of Hawaii; Ph.D., Cornell.
- *GILLIS, GERALD F.**..... *Instructor in Mechanical Engineering*, 1959
B.M.E., Auburn University.

* Temporary.

** On leave.

- GILLMORE, WILLARD F. JR. *Assistant Professor of Electrical Engineering*, 1959
B.S., M.S., Case Institute of Technology.
- GLASSCOCK, NELL SKAGGS *Associate Professor of Home Economics*, 1958
B.S., M.A., Ph.D., Texas Woman's College.
- GLYDE, EDGAR C. *Professor of Music*, 1946, 1957
F.T.C.L.; L.Mus.T.C.L.; L.R.A.M.; L.T.C.L. (London, England).
- GOLDEN, WILLIAM H. *Instructor in Electrical Engineering*, 1959
B.E.E., Auburn University.
- GOOD, HENRY G. *Professor of Zoology and Entomology*, 1924, 1946
B.S., California; M.S., Ph.D., Cornell.
- GOODMAN, JOHN G. *Associate Professor of Poultry Husbandry*, 1939, 1946
B.S., M.S., Auburn University.
- *GOODRICK, JEAN *Instructor in Home Economics*, 1952, 1957
B.S., M.S., Auburn University.
- GOOLSBY, HYRON C. *Assistant Professor of Industrial Laboratories*, 1953, 1958
B.S., M.Ed., Auburn University.
- GOSLIN, WILLIAM E. *Assistant Professor of Botany*, 1959
B.S., M.S., Ph.D., Ohio State.
- GOSSER, LEO G. *Professor of English*, 1927, 1933
B.S., Kirksville State Teachers; Ph.D., Chicago.
- *GRAHAM, JOHN *Instructor in Mathematics*, 1954, 1958
B.S., Birmingham-Southern.
- GRAVES, THELMA *Assistant Professor of Home Economics*, 1942, 1943
B.S., Auburn University; M.S., Iowa State.
- GRAY, JOHN W. *Instructor in Speech*, 1959
B.A., Ouachita Baptist College; M.A., Arkansas.
- *GRAY, ROY C. JR. *Instructor in Animal Husbandry*, 1957
B.S., M.S., Kentucky.
- GREEN, HOWARD W. *District Supervisor of Vocational Agriculture and
Itinerant Teacher Trainer*, 1948, 1958
B.S., M.S., Auburn University.
- GREEN, JOHN CHASE *Assistant Professor of Speech*, 1947, 1950
B.A., Yale; M.S., Southern California.
- GREEN, WALTER LUTHER *Instructor in Electrical Engineering*, 1958
B.E.E., Auburn University.
- GRIFFIN, RICHARD W. III *Assistant Professor of History*, 1957
B.S., Wake Forest; M.A., Ph.D., Ohio.
- GRIMES, JAY C. *Professor of Animal Husbandry*, 1920, 1950
B.S., Tennessee; M.S., Kentucky.
- GRITZ, IRVIN B. *Associate Professor of Economics and Business
Administration*, 1931, 1946
B.S., M.S., Oklahoma A. & M.
- GROTH, AARON H. JR. *Associate Professor of Pathology and Parasitology*, 1957, 1959
B.S., D.V.M., Auburn University.
- GUYTON, FAYE E. *Professor of Zoology and Entomology*, 1921, 1938
B.S., M.S., Ohio State.
- HADAWAY, JOSEPH L. *Assistant Professor of Military Science and Tactics*, 1959
B.S., Georgia; Captain, Armor.
- HAHN, ALLEN W. *Research Assistant, Small Animal Surgery and Medicine*, 1958
B.S., D.V.M., Missouri.
- HAINES, PAUL *Professor of English*, 1947, 1952
B.S., Lafayette; M.A., Ohio Wesleyan; Ph.D., New York University.
- HALE, DENNIS P. *Assistant Professor of Economics and
Business Administration*, 1957, 1959
B.S., Middle Tennessee State; M.A., Peabody.
- HALE, FRANCES W. *Assistant Professor in Economics*, 1956, 1959
B.S., Troy State College; M.A., Peabody.
- HALL, JAMES CURTIS *Associate Professor of Education*, 1957
A.B., Duke; M.S., Virginia Polytechnic Institute; Ed.D., Teachers College, Columbia.

* Temporary.

- **HAMILTON, JOHN WARD.....Assistant Professor of Foreign Languages, 1956
 B.A., M.A., Florida.
- HANKENSON, EDWARD CRAIG.....Assistant Professor of Music, 1959
 B.M., M.Mus., Eastman School of Music.
- *HANKENSON, JOYCE.....Instructor in Music, 1959
 B.S., Winthrop College; M.Mus., Eastman School of Music.
- *HANLEY, WALTER ROBERT.....Instructor in Electrical Engineering, 1959
 B.E.E., Auburn University.
- HANNA, MARK.....Assistant Professor of Economics and Business Administration, 1958
 A.B., Birmingham-Southern
- HANNUM, JOSHUA EYRE.....Dean Emeritus of Engineering and
 B.S., M.E., Pennsylvania State. Director of Pre-Engineering, 1938, 1958
- HARDIGREE, CRUZ A.....Assistant Professor of Speech, 1959
 A.B., Puerto Rico; M.S., Michigan; Ph.D., Ohio State.
- HARGREAVES, GEORGE W.....Professor of Pharmaceutical Chemistry, 1926, 1950
 Ph.C., B.S., M.S., Nebraska.
- HARLAN, RICHARD S.....Assistant Professor of Physics, 1959
 B.S., U.S. Naval Academy.
- HAROUFF, MONTE D.....Assistant Professor of Naval Science, 1957
 B.S., B.A., M.S., Marshall College, West Virginia; Lieutenant Commander, United States Naval Reserve.
- HARRIS, HUBERT.....Associate Professor of Horticulture, 1936, 1948
 B.S., M.S., Auburn University.
- HARRISON, DAVID T.....Instructor, Army ROTC, 1959
 Sergeant First Class, United States Army.
- HARTMAN, MAURICE A.....Associate Professor of Economics and
 Business Administration, 1956
 B.S., High Point College; M.S., North Carolina; M.B.A., Texas.
- HARTWIG, CHESTER W.....Associate Professor of Sociology, 1951, 1959
 B.S., M.A., Ph.D., Wisconsin.
- HAUSER, WILLIAM R.....Assistant Professor of English, 1958
 B.A., Denison University; M.A., Pittsburgh.
- HAYNES, LUTHER J.....Professor of Industrial Laboratories, 1945, 1956
 B.S., M.S., Auburn University; Ph.D., Bradley University.
- HAYS, DEAN S.....Instructor in Zoology, 1956, 1958
 B.A., Maryville College.
- HAYS, KIRBY LEE.....Assistant Professor of Zoology-Entomology, 1957
 B.S., M.S., Auburn University; Ph.D., Michigan.
- HEATH, MCKENZIE.....Professor of Small Animal Surgery and Medicine, 1952, 1955
 D.V.M., Auburn University.
- *HELMKE, H. C.....Instructor in Foreign Languages, 1959
 B.A., M.A., Duke.
- HENRY, JOHN FREDERICK.....Assistant Professor of Industrial Management, 1957
 B.I.M., Auburn University; M.S.I.M., Georgia Tech.
- HERRING, HAL M.....Instructor in Men's Physical Education, 1953
 B.S., M.S., Auburn University.
- *HIERS, CHARLES J.....Instructor in Art, 1958
 B.App.Art, Auburn University.
- HILL, A. J.....Associate Professor of Economics and Business
 B.S., Auburn University; M.B.A., Northwestern. Administration, 1948, 1952
- HILLIARD, ROY E.....Assistant Professor of Air Science, 1959
 B.S., Florida; Captain, United States Air Force.
- HILTBOLD, ARTHUR EDWARD.....Associate Professor of Soils, 1955, 1959
 B.S., Cornell; M.S., Iowa State; Ph.D., Cornell.
- HINTON, WILBUR.....Professor, Band Director, 1956, 1959
 B.M., M.A., Ed.D., Alabama.

* Temporary.

** On leave.

- HOCKING, GEORGE M. _____ *Professor of Pharmacognosy*, 1951
B.S., Washington; M.S., Ph.D., Florida.
- HODGKINS, EARL J. _____ *Professor of Forestry*, 1952, 1957
B.S., Michigan State; M.S., California; Ph.D., Michigan State.
- HOEFFNER, THEODORE C. _____ *Associate Professor of English*, 1941, 1956
B.S., Memphis State; M.A., Vanderbilt.
- HOERLEIN, BENJAMIN F. _____ *Head Professor of Small Animal Surgery
and Medicine*, 1947, 1958
D.V.M., Colorado A & M; Ph.D., Cornell.
- HOLCOMB, KENNETH J. _____ *Assistant Professor of Economics and
Business Administration*, 1959
B.S., B.A., M.A., Arkansas.
- HOLLAWAY, OTTO _____ *Professor of Education*, 1945, 1953
B.S., M.S., Auburn University; Ed.D., Teachers College, Columbia.
- HOLLOWAY, CLARKE L. _____ *Instructor in Anatomy and Histology*, 1960
D.V.M., Auburn University. (Effective January 1, 1960.)
- **HOLMES, CHARLES H. _____ *Assistant Professor of Electrical Engineering*, 1957
B.E.E., Auburn University; M.E.E., Polytechnic Institute of Brooklyn.
- *HOLT, DONALD _____ *Instructor in Foreign Languages*, 1959
B.A., Auburn University.
- *HOLT, JO MARIE _____ *Instructor in Foreign Languages*, 1959
A.B., Auburn University.
- HONNELL, MARTIAL ALFRED _____ *Professor of Electrical Engineering*, 1958
B.S.E.E., M.S.E.E., Georgia Tech.
- HONOUR, FRANCES M. _____ *Reference Librarian and Instructor*, 1950, 1959
A.B., Tennessee Polytechnic Institute; M.S.L.S., Southern California.
- HOOD, JOSEPH T. _____ *Professor of Agronomy*, 1949, 1959
B.S., Georgia; M.S., Purdue; Ph.D., Cornell.
- HORNE, ROBERT D. _____ *Instructor of Small Animal Surgery and Medicine*, 1959
D.V.M., Auburn University.
- *HOURIHAN, MARTIN _____ *Instructor in Economics and Business Administration*, 1958
B.S., Huntingdon.
- HOVELAND, CARL S. _____ *Associate Professor of Agronomy*, 1959
B.S., M.S., Wisconsin; Ph.D., Florida.
- HOWARD, MILFORD K. _____ *Instructor in Men's Physical Education*, 1948
B.S., Auburn University.
- HUDSON, FRED M. _____ *Associate Professor of Civil Engineering*, 1947, 1952
B.S.C.E., Purdue; M.S., Princeton.
- HUESTIS, JOHN L. _____ *Assistant Professor of Military Science and Tactics*, 1959
B.S., Minnesota; Captain, Artillery.
- HUFF, C. W. _____ *Associate Professor of Mathematics*, 1954, 1959
B.S., Wofford; M.S., South Carolina; Ph.D., Georgia.
- HUGHES, GORDON _____ *Professor of Physics*, 1933, 1946
B.A., Oberlin; M.A., Ph.D., Illinois.
- HUIE, VELMA M. _____ *Catalog Librarian and Instructor*, 1956, 1959
B.S., Jacksonville State College; M.A.L.S., Peabody College for Teachers.
- HUMBURG, JAY M. _____ *Instructor of Large Animal Surgery and Medicine*, 1958
B.S., D.V.M., Kansas State College.
- HUMPHREY, BENNY A. _____ *Instructor in English*, 1959
B.A., Henderson State Teachers College; M.A., Arkansas.
- HUTSELL, WILBUR HALL _____ *Professor of Physical Education*, 1921
A.B., Missouri.
- IKENBERRY, ERNEST _____ *Research Professor of Mathematics*, 1950, 1956
A.B., Ottawa; M.A., Kansas; Ph.D., Louisiana.
- IKENBERRY, JANICE T. _____ *Assistant Professor of Foreign Languages*, 1945
A.B., Randolph-Macon; M.A., Alabama; Diplomas from Univ. of Poitiers, Univ. of Paris, and Univ. of Geneva.

° Temporary.

** On leave.

- INGALLS, ROBERT D. *Assistant Professor of Mechanical Engineering*, 1921, 1955
C.E., Cornell; M.S., Auburn University.
- INGRAM, FORNEY H. *Assistant Professor of Engineering Graphics*, 1927, 1957
B.S.C.E., M.C.E., Auburn University.
- IRVINE, PAUL *Professor of Education and Head, Education*
A.B., Willamette University; M.A., Ph.D., New York. *Interpretation Service*, 1928, 1949
- IVEY, ELMER R. *Instructor in Mathematics*, 1956
A.B., Alabama; M.A., Michigan.
- IVEY, OLIVER T. *Associate Professor of History*, 1928, 1946
B.S., M.S., Auburn University; M.A., Chicago.
- IVEY, WILLIAM D. *Assistant Professor of Zoology and Entomology*, 1947, 1951
B.S., M.S., Auburn University; Ph.D., Emory.
- JACKSON, ELINOR *Instructor in Women's Physical Education*, 1958
B.S., Georgia State College for Women; M.S., Florida State.
- JAFFE, THEODORE *Professor of Civil Engineering*, 1956
B.S., City College of New York; M.S., New York University.
- JAMES, CHARLES W. *Instructor of Anatomy and Histology*, 1957
D.V.M., Auburn University.
- JENKINS, CHARLES H. *Instructor of Naval Science*, 1958
Sergeant Major, United States Marine Corps.
- JENKINS, FRANK W. *District Supervisor, Vocational Rehabilitation*
A.B., Emory. *Service*, 1949, 1953
- JOHNSON, DONALD F. JR. *Professor of Pathology and Parasitology*, 1956
D.V.M., M.S., Texas A. & M.
- JOHNSON, DONALD R. *Assistant Professor of Military Science and Tactics*, 1959
B.S., Michigan; Captain, Engineers.
- *JOHNSON, EVERT W. *Associate Professor of Forestry*, 1950, 1957
B.S., New Hampshire; M.F., Yale; Ph.D., Syracuse.
- JOHNSON, JACK L. *Instructor in Engineering Graphics*, 1959
B.I.M., Auburn University.
- JOHNSON, JEAN *Instructor in English*, 1958
B.A., Emory and Henry; M.A., Arkansas.
- JOHNSON, SIDNEY W. *Associate Professor of History*, 1925, 1941
B.S., M.S., Auburn University.
- JOHNSON, WILEY C. JR. *Associate Professor of Agronomy*, 1957
B.S., Wake Forest; B.S., M.S., North Carolina State; Ph.D., Cornell.
- JONES, DAN THOMAS *Head Professor of Industrial Laboratories*, 1921, 1928
Diploma, Auburn University.
- JONES, EDWARD OSCAR JR. *Associate Professor of Mechanical*
B.M.E., B.E.E., Auburn University; M.S., Illinois. *Engineering*, 1946, 1954
- JONES, HANIEL *Instructor in Engineering Graphics*, 1958
B.A., Millsaps College; B.D., Duke.
- JONES, MADISON P. JR. *Assistant Professor of English*, 1956
A.B., Vanderbilt; M.A., Florida.
- JONES, RALPH R. *Training Officer, School of Agriculture*, 1936, 1957
B.S., Auburn University; M.S., Michigan State.
- JONES, SAM T. *Associate Professor of Horticulture*, 1950, 1954
B.S., M.S., Auburn University; Ph.D., Louisiana State.
- *JONES, SAMUEL B. JR. *Instructor in Botany*, 1959
B.S., Auburn University.
- *JONES, THOMAS E. *Instructor in Engineering Graphics*, 1959
B.S.Ch.E., Auburn University.
- JORDAN, RALPH *Professor of Physical Education*, 1932, 1951
B.S., Auburn University.
- JUSTICE, ERNEST *Assistant Professor of Education*, 1959
B.M.E., Kansas State Teachers College; M.S., Ph.D., Wisconsin. (Effective Dec. 16, 1959.)

* Temporary.

** On leave.

- KAMINSKY, WALLACE B. _____ Assistant Professor of English, 1955, 1958
B.A., New York; M.F.A., Iowa State.
- KAZMIERCZAK, STELLA _____ Instructor in Women's Physical Education, 1957
R.N., St. Joseph's Infirmary, Atlanta, Georgia; B.S.H.E., Florida.
- KELLEY, CHARLES MANFORD _____ Head Professor of Architecture, 1946, 1957
B.Arch., Auburn University; M.Arch., Harvard.
- KENDRICK, JACK E. _____ Associate Professor of History, 1939, 1946
A.B., North Carolina; M.A., Emory; Ph.D., North Carolina.
- KERN, EDWARD E. JR. _____ Associate Professor of Agricultural Economics, 1955
B.S., M.S., Louisiana State University.
- KETTUNEN, MARIETTA _____ Associate Professor of Art, 1954, 1957
B.A.E., Art Institute of Chicago. Studied: Parsons, New York Art Students League.
- *KILBOURN, D. L. _____ Instructor in Physics, 1956
B.E.P., Auburn University.
- KILLGORE, JAMES A. _____ Assistant Professor of Air Science, 1958
B.A., Southern Methodist University; Captain, United States Air Force.
- KINCEY, TRULY ELIZABETH _____ Assistant Professor of Economics &
A.B., Alabama College; M.A., Tulane. Business Administration, 1957
- KING, DALE F. _____ Professor of Poultry Husbandry, 1930, 1959
B.S., Oregon State; M.S., Kansas State.
- KITCHENS, EDWARD L. _____ Assistant Professor of Air Science, 1958
B.S., Clemson; Major, United States Air Force.
- KLEPINGER, WALTER J. _____ Assistant Professor of Engineering Graphics, 1934, 1956
B.M.E., Ohio State.
- KLING, J. MALCOLM _____ Instructor of Physiology and Pharmacology, 1959
D.V.M., Georgia.
- KLONTZ, HAROLD E. _____ Professor of Economics and Business
A.B., Berea; Ph.D., North Carolina. Administration, 1946, 1950
- KNIGHT, WILLIAM C. _____ Associate Professor of Textile Technology, 1946, 1957
B.T.C., Auburn University; M.S.T.E., Georgia Tech.
- KNOWLES, RALPH L. _____ Assistant Professor of Architecture, 1959
B.Arch., North Carolina State College; M.Arch., M.I.T.
- KNOWLES, ROBERT L. _____ Assistant Professor of Dramatic Arts, 1951, 1955
B.A., Stetson; M.A., Florida.
- KOPER, ROBERT P. _____ Assistant Professor of Music, 1959
B.S., Illinois; M.Mus., Catholic University.
- KOSOLAPOFF, GENNADY M. _____ Research Professor of Chemistry, 1948, 1953
B.S.Ch.E., Cooper Union; M.S., Sc.D., Michigan.
- KUDERNA, JEROME _____ Professor of Education, 1929, 1937
A.B., M.A., Michigan.
- KUMMER, F. A. _____ Head Professor of Agricultural Engineering, 1935, 1948
B.S., M.S., Auburn University.
- LAMAR, MARY GEORGE _____ Assistant Professor of Economics and
B.S., Auburn University; M.A., New York. Business Administration, 1933, 1955
- LAND, JAMES E. _____ Professor of Chemistry, 1938, 1955
B.S., Clemson; M.S., Tulane; Ph.D., North Carolina.
- LAND, JEANNETTA T. _____ Head Professor of Women's Physical Education, 1941, 1943
B.S., Alabama; M.A., Teachers College, Columbia.
- LANE, WILLIAM E. _____ Head Professor of Industrial Management, 1949, 1955
B.S., M.S., Auburn University; Ph.D., Alabama.
- LANHAM, BEN T., JR. _____ Head Professor of Agricultural Economics, 1939, 1956
BS., Clemson; M.S., Tennessee.
- LAPP, VERNON W. _____ Professor of Education, 1940, 1944
B.S., M.A., Ph.D., Iowa.
- *LAPSLEY, JOHN WHITFIELD JR. _____ Assistant Professor of Art, 1959
B.A., Birmingham-Southern; M.A., Columbia.

- LARSEN, HARRY S. _____ *Assistant Professor of Forestry*, 1959
B.S., Rutgers; M.S., Michigan State.
- LAWLER, JOYCE _____ *Assistant Professor of Women's Physical Education*, 1955, 1958
A.B., Bessie Tift College; M.A., Peabody.
- *LAWRENCE, FAYE B. _____ *Assistant Professor of Zoology*, 1946, 1959
B.S., Huntingdon; M.S., Auburn University.
- LAWRENCE, JOHN M. _____ *Associate Professor of Zoology and Entomology*, 1946, 1956
B.S., M.A., Auburn University; Ph.D., Iowa State.
- LAWSON, STANTON C. D. _____ *Associate Professor of Mechanical Engineering*, 1958
B.A.Sc., University of Toronto; M.S., Michigan.
- LAYFIELD, CLAUDE B. _____ *Associate Professor of Industrial Management*, 1947, 1958
B.A.A., B.I.M., Auburn University; M.S., Georgia Tech.
- LAYFIELD, MARY _____ *Assistant Professor in Home Economics*, 1953, 1957
B.S., M.S., Ed.D., Auburn University.
- LAYMAN, EARL D. _____ *Associate Professor of Architecture*, 1957
B.S., B.Arch., Oregon; Certificate, Fontainebleau Fine Arts School.
- LAYTON, L. LAMAR _____ *Manager, Computer Laboratory*, 1957, 1959
B.S., Georgia Teachers College; M.A., Emory; M.S., Illinois.
- LEE, FARLEY _____ *Agriculture Librarian and Assistant Professor*, 1928, 1959
B.S., Judson College; B.S., Chicago; M.A., Columbia; A.B.L.S., Emory.
- LEFFARD, WARREN L. _____ *Assistant Professor of Industrial Laboratories*, 1956, 1959
B.S., M.Ed., Auburn University.
- LEHMANN, RUTH PARK _____ *Instructor in English*, 1955, 1957
A.B., LaGrange College; M.A., Auburn University.
- *LEWIS, CHARLES W. _____ *Associate Professor of Economics and Business Administration*, 1947
B.A., M.A., Vanderbilt.
- LEWIS, GEORGE R. _____ *Head, Circulation Dept. (Library) and Assistant Professor*, 1958, 1959
A.B., Mississippi College; M.S.L.S., Louisiana State.
- *LIDDELL, WILL L. JR. _____ *Instructor in Mechanical Engineering*, 1959
B.M.E., Auburn University.
- *LIGHT, MARGARET PANSY _____ *Instructor in Mathematics*, 1953, 1955
B.S., Mississippi Southern; M.A., Auburn University.
- LINDELL, KERMIT O. _____ *Assistant Professor of Military Science and Tactics*, 1957
B.S., USMA; M.S., Minnesota; Major, Engineers.
- *LINDSEY, ELLA SUE M. _____ *Instructor in Mathematics*, 1956
B.S., Auburn University.
- LINDSEY, JAMES R. _____ *Instructor of Pathology and Parasitology*, 1957
B.S., D.V.M., Georgia.
- *LINDSEY, PAUL W. _____ *Instructor in Physics*, 1956, 1957
B.S.E.E., M.S., Auburn University.
- LITTLE, ALTON S. _____ *Associate Professor of Engineering Graphics*, 1947, 1955
B.C.E., Auburn University; M.S.C.E., Georgia Tech.
- LITTLETON, TAYLOR D. _____ *Assistant Professor of English*, 1957, 1959
B.S., M.A., Florida.
- LITTLEWOOD, LYLE E. _____ *Assistant Professor of Naval Science*, 1959
B.S., North Central College, Illinois; Lieutenant Junior Grade, U.S. Naval Reserve.
- LIVERMAN, JOHN HUBERT _____ *Head Professor of Music*, 1945, 1954
B.S., M.A., Columbia.
- LOCKETT, JOHN _____ *Professor of Military Science and Tactics and the Commandant*, 1957
Ph.B., Yale University; Colonel, Artillery.
- LORENDO, EUGENE _____ *Instructor in Men's Physical Education*, 1951
B.S., Georgia.
- LOVELL, JOHN T. _____ *Associate Professor of Education and Director of Student Teaching*, 1956
B.A., M.A., Peabody College for Teachers; D.Ed., Florida.

* Temporary.

** On leave.

- **LOWRY, JAMES L. Assistant Professor of Electrical Engineering, 1955, 1957
 B.E.E., M.E.E., Auburn University.
- *LUKAWECKI, STANLEY Instructor in Mathematics, 1955, 1959
 B.S., Southeastern Louisiana College; M.S., Auburn University.
- LYLE, JAMES A. Head Professor of Botany and Plant Pathology, 1947, 1954
 B.S., Kentucky; M.S., North Carolina State; Ph.D., Minnesota.
- LYNN, WILLIAM J. Instructor in Men's Physical Education, 1951
 B.S., Auburn University.
- *MACGREGOR, MARGARET Assistant Professor of Music, 1955, 1956
 B.Mus., M.Mus., Michigan.
- MACON, NATHANIEL Professor of Mathematics and Director of
 A.B., M.A., Ph.D., North Carolina. Computing Laboratory, 1951, 1959
- **MALONE, DAVID H. Associate Professor of English, 1948, 1952
 B.A., Ph.D., North Carolina.
- MARSHALL, NORTON LITTLE Assistant Professor of Botany, 1958
 B.S., Pennsylvania State; M.S., Ph.D., Maryland.
- MARTIN, FRED WILLIAM Professor of Aeronautical Engineering, 1956
 B.S.A.E., M.S., Virginia Polytechnic Institute.
- MARTIN, PAUL E. Assistant Professor of Military Science and Tactics, 1957
 B.S., Ohio State University; First Lieutenant, Signal Corps.
- MARTIN, WILLIS C. JR. Instructor in Ornamental Horticulture, 1951, 1958
 B.S., Auburn University.
- MARTINCIC, ALBERT FRANK Assistant Professor of Men's Physical
 B.S., M.A., State University of Iowa. Education, 1948, 1953
- MARTY, EDWARD C. Professor of Building Technology, 1939, 1957
 B.Arch., M.Arch., Auburn University.
- MATHEWS, CHARLES BENSON Instructor in Aeronautical Engineering, 1958
 B.I.M., B.S.A.E., Auburn University.
- MAYER, RONALD W. Assistant Professor of Psychology, 1958
 B.A., Ohio Wesleyan; M.A., Ph.D., Ohio State.
- MAYNOR, HAL WHARTON JR. Professor of Mechanical Engineering, 1959
 B.S., M.S., D.ofEng., Kentucky.
- MAYS, JOHN B. JR. Assistant Professor of Air Science, 1959
 B.S., Georgia; Major, United States Air Force.
- MCCAIN, FRANCIS SAXON Professor of Agronomy, 1946, 1959
 B.S., M.S., Auburn University; Ph.D., Purdue.
- MCCANN, FRANKLIN T. Professor of English, 1947, 1953
 A.B., Denison; M.A., Harvard; M.A., Ph.D., Columbia.
- MCCLUNG, JAMES D. Associate Professor of Engineering Graphics, 1941, 1946
 B.S., Ed.M., Oklahoma.
- MCCLURKIN, JAMES H. Assistant Professor of Military Science and Tactics, 1959
 Major, Artillery.
- *MCCOLLOUGH, LOLA B. Assistant Professor of Foreign Languages, 1959
 M.A., Columbia; Ph.B., Chicago. (Resigned Effective Sept. 15, 1959.)
- *MCGARR, ELBERT LEONARD Instructor in Engineering Graphics, 1956, 1959
 B.C.E., Auburn University.
- MCGOWEN, NEIL E. Instructor in Men's Physical Education, 1948
 B.S., Auburn University.
- MCILWAIN, ROBERT H. Instructor in Zoology, 1958, 1959
 B.S., Livingston State College.
- MCINTOSH, DAVID M. Associate Professor of Naval Science, 1957
 B.S., Mississippi State; Commander, United States Navy.
- MCINTYRE, SHERWOOD C. Professor of Psychology, 1948
 B.A., B.Sc.Ed., M.A., Ph.D., Ohio State.
- MCIVOR, JOHN WILFRED Instructor in Art, 1959
 B.F.A., M.F.A., Illinois.

* Temporary.

** On leave

- McKAY, JOE M. _____ *Instructor in Electrical Engineering*, 1957
B.S.Ch., Auburn University.
- McKINNON, JOHN C. _____ *Professor of Mechanical Engineering*, 1924, 1943
B.E.E., B.M.E., Auburn University; M.S., Michigan.
- McLEOD, FRANCES R. _____ *Assistant Professor of English*, 1945, 1955
A.B., Huntingdon; M.S., Auburn University.
- McMILLAN, MALCOLM COOK _____ *Research Professor of History*, 1948, 1952
A.B., M.A., Alabama; Ph.D., North Carolina.
- McMURTRY, THOMAS EDWARD _____ *Instructor in Industrial Laboratories*, 1959
B.S., M.Ed., Auburn University.
- McNAIR, DANIEL PRESTON _____ *Instructor in Men's Physical Education*, 1955
B.S., Auburn University.
- McNORTON, CLAUDE _____ *Assistant Professor of History*, 1946, 1949
A.B., Alabama; M.S., Louisiana State; M.A., New York.
- MECHAM, JOHN STEPHEN _____ *Assistant Professor of Zoology and Entomology*, 1956
B.A., Texas; M.S., Florida; Ph.D., Texas.
- MELIUS, PAUL _____ *Associate Professor of Chemistry*, 1957
B.S., Bradley; M.S., Chicago; Ph.D., Loyola, Chicago.
- *MELZER, DOROTHY GARRETT _____ *Assistant Professor of English*, 1958
A.M., Ph.B., Chicago.
- MELZER, JOHN HENRY _____ *Professor of Philosophy*, 1958
A.M., Ph.D., Vanderbilt.
- METCALF, JACK A. _____ *Instructor of Naval Science*, 1959
Chief Gunner's Mate, U.S. Navy.
- METZGER, ABRAM B. _____ *Assistant Professor of History and Government*, 1937, 1947
B.B.A., Chattanooga; M.S., Auburn University.
- *MIDDLETON, WALTER O. _____ *Instructor in Economics and
Business Administration*, 1956
B.S., Florida.
- MILLER, HAMPTON KNOX _____ *Assistant Professor of Electrical Engineering*, 1938, 1946
B.E.E., Auburn University.
- *MILLER, LOIS B. _____ *Assistant Professor of English*, 1959
B.A., Wooster; A.M., Tufts College; Ph.D., North Carolina.
- MILLER, WILLIAM L. _____ *Professor of Economics and Business
Administration*, 1949, 1955
B.B.A., Chattanooga; M.A., Ph.D., Duke.
- *MILLICAN, ALTA LUCILLE _____ *Instructor of Education*, 1958
B.S., Jacksonville State College; M.A., Alabama.
- MIN, TONY C. _____ *Associate Professor of Mechanical Engineering*, 1957
B.S.A.E., Chiao Tung University; M.S.M.E., Tennessee.
- MITCHELL, ROY D. _____ *Assistant Professor of Engineering Graphics*, 1956
B.S., M.S., Oklahoma State.
- MODISSETT, CHARLES R. _____ *Assistant Professor of Military Science and Tactics*, 1959
B.S., Texas A & M; Captain, Signal Corps.
- MONTGOMERY, R. W. _____ *Head Professor of Agricultural Education*, 1940, 1952
B.S., M.S., Auburn University; Ph.D., Ohio State.
- MOON, VIRGIL C. _____ *Assistant Professor of Military Science and Tactics*, 1957
B.B.A., Alabama; Captain, Armor.
- MOORE, CLAUDE H. _____ *Head Professor of Poultry Husbandry*, 1956, 1959
B.S., Auburn University; M.S., Kansas State; Ph.D., Purdue.
- MOORE, JANE _____ *Instructor in Women's Physical Education*, 1959
B.S., Judson; M.S., Tennessee.
- MOORE, JOHN R. _____ *Associate Professor of English*, 1932, 1937
A.B., Tulane; A.M., Ph.D., Harvard.
- MOORE, JOSEPH C. _____ *Assistant Professor of Horticulture*, 1938, 1947
B.S., Auburn University; M.S., Washington University.
- *MOORE, MARY VIRGINIA _____ *Instructor in Speech*, 1956, 1958
A.B., Valdosta State College; M.S., Purdue.

- MOORE, OMAR C. _____ *Associate Professor of Chemical Engineering*, 1931, 1953
B.S., M.S., Auburn University.
- MORGAN, WILLIAM W. _____ *Assistant Professor of Industrial Management*, 1954
B.B.A., Georgia; M.S., in I.M., Georgia Tech.
- MORLEY, RUTH D. _____ *Associate Professor of Home Economics*, 1941
B.S., Michigan State; M.S., Columbia.
- MORRISSEY, JOSEPH M. _____ *Assistant Professor of Air Science*, 1957
B.B.A., Houston; LL.B., St. Mary's University; Captain, United States Air Force.
- MOSS, J. HERBERT JR. _____ *Assistant Professor of Mathematics*, 1948
A.B., William and Mary; M.S., New York.
- MUELLER, RICHARD EDWIN _____ *Instructor in Mechanical Engineering*, 1957
B.M.E., Auburn University.
- *MYLES, MARY CATHERINE G. _____ *Instructor in Chemical Engineering*, 1959
B.S., Pittsburgh; M.S., Auburn University.
- MYLES, WILLIAM R. _____ *Associate Professor of Economics and Business Administration*, 1949, 1957
B.S., M.A., Pittsburgh.
- NAPIER, JOHN H. III _____ *Assistant Professor of Air Science*, 1957
B.A., Mississippi; Captain, United States Air Force.
- NAYLOR, ROBERT ARTHUR _____ *Assistant Professor of History*, 1956, 1957
B.A., M.A., University of Western Ontario; Ph.D., Tulane.
- NEAL, JAMES E. _____ *Head Professor of Bacteriology*, 1951, 1959
B.S., Mississippi State; D.V.M., Auburn University; M.S., Texas A & M.
- NEAL, JESSE HAROLD _____ *Professor of Agricultural Engineering*, 1939, 1948
B.S., Kansas State; M.S., Minnesota; Ph.D., Missouri.
- NEEDY, JOHN A. _____ *Professor of Mechanical Engineering*, 1948, 1950
B.S.M.E., M.E., Kentucky; M.S., Purdue.
- NEWELL, ANNIE LAURA _____ *Instructor of Education*, 1958
A.B., LaGrange College; M.S., Auburn University.
- *NEWMAN, MARY EMMA M. _____ *Instructor in Mathematics*, 1942
B.S., M.S., Auburn University.
- NICHOLS, GROVER T. _____ *Associate Professor of Electrical Engineering*, 1947, 1950
B.E.E., Auburn University; M.S., Georgia Tech.
- NICHOLS, MARK L. _____ *Research Lecturer, Agricultural Engineering*, 1917, 1957
B.S., Ohio State; M.S., Delaware; D.Sc., Clemson College.
- NICHOLS, SAMUEL H. JR. _____ *Professor of Chemistry*, 1944, 1955
A.B., Centre; M.S., Ph.D., Ohio State.
- NONEAKER, DANIEL O. _____ *Instructor in Electrical Engineering*, 1958
B.E.E., Auburn University.
- NUNNERY, MICHAEL Y. _____ *Assistant Professor of Education*, 1959
B.S., Austin Peay State College; M.A., North Carolina State College; Ed.D., Tennessee.
- ORR, FRANK MARION _____ *Head Professor of Building Technology*, 1928, 1957
B.S., M.Arch., Auburn University.
- ORR, HENRY P. _____ *Associate Professor of Ornamental Horticulture*, 1947, 1949
B.S., Auburn University; M.S., Ohio State.
- *ORSINI, EVA _____ *Instructor in Architecture*, 1959
B.F.A., Rhode Island School of Design; M.A., New York.
- ORSINI, NICHOLAS _____ *Instructor in Architecture*, 1959
B.F.A., Rhode Island School of Design; M.F.A., Pennsylvania.
- *OTTIS, CHARLOTTE _____ *Instructor in Education*, 1959
A.B., Dakota Wesleyan University; M.A., Wisconsin.
- OTTIS, KENNETH _____ *Associate Professor of Zoology and Entomology*, 1953
B.S., Dakota Wesleyan; M.S., Ph.D., Iowa State.
- PARKER, WILLIAM VANN _____ *Head Professor of Mathematics*, 1950
A.B., M.A., North Carolina; Ph.D., Brown.
- PARTENHEIMER, EARL J. _____ *Assistant Professor of Agricultural Economics*, 1959
B.S., M.S., Purdue; Ph.D., Michigan State.

- PARTIN, ROBERT L. _____ *Professor of History*, 1937, 1947
B.S., Middle Tennessee State; M.A., Ph.D., Peabody.
- PATTERSON, RICHARD MCCARTHY _____ *Associate Professor of Agronomy*, 1949, 1959
B.S., M.S., Florida.
- **PATRICK, KEITH HILTON _____ *Assistant Professor of Agronomy*, 1954
B.S., Oklahoma A. & M.
- PATRICK, WALTON R. _____ *Head Professor of English*, 1946, 1947
B.S., Mississippi State; M.A., Ph.D., Louisiana State.
- PATTERSON, TROY B. JR. _____ *Associate Professor of Animal Husbandry*, 1957
B.S., Mississippi State; M.S., Ph.D., Texas A. & M.
- PATTON, GEORGE W. _____ *Associate Professor of Economics and Business Administration*, 1943
B.Ph., Emory; M.A., Kentucky.
- *PAYNE, CHARLES A. _____ *Instructor in Chemistry*, 1959
B.S., M.S., Auburn University.
- PAYNE, ESSIE CRUMPTON _____ *Instructor in English*, 1951, 1955
B.S., M.A., Auburn University.
- PEARSON, ALLEN M. _____ *Professor of Zoology-Entomology*, 1937, 1957
B.S., Auburn University; M.S., Ph.D., Iowa State.
- *PEET, HELEN HANNA _____ *Reference Librarian and Instructor*, 1937, 1959
A.B., Mississippi College for Women; M.A., Tulane.
- PEET, TELFAIR BOYS _____ *Head Professor of Dramatic Arts*, 1931, 1957
A.B., Columbia; M.A., North Carolina.
- PERRY, NORMAN C. _____ *Associate Professor of Mathematics*, 1953, 1956
B.A., California; M.A., Ph.D., Southern California.
- PETERSON, JOE G. _____ *Associate Professor of Chemistry*, 1948, 1959
B.S., M.S., Auburn University.
- PETH, CARL L. _____ *Assistant Professor of Naval Science*, 1956
B.S.M.E., Purdue; Lieutenant Commander, U.S. Navy.
- PHILLIPS, BILLY RUSSELL _____ *Instructor in Mechanical Engineering*, 1959
B.M.E., Auburn University.
- PHILLIPS, CHARLES LAMAR _____ *Assistant Professor of Electrical Engineering*, 1959
B.S.E.E., M.S.E.E., Georgia Tech.
- PHILLIPS, JOE _____ *Assistant Professor of Textile Technology*,
B.S., Auburn University. *Auburn Research Foundation*, 1959
- PICKETT, WILDA D. _____ *Associate Professor of Education*, 1959
B.S., Central Missouri State; A.M., Ed.D., Teachers College, Columbia.
- PITTS, ROBERT GILES _____ *Head Professor of Aeronautical Engineering*, 1935, 1944
B.A.E., Auburn University; M.S., California Institute of Technology.
- POLHEMUS, GEORGE W. _____ *Assistant Professor of English*, 1956, 1959
A.B., M.A., Mississippi; M.A., Columbia.
- POPENOE, JOHN _____ *Associate Professor of Horticulture*, 1958
B.S., California; M.S., Ph.D., Maryland.
- PORTER, DALE A. _____ *Research Lecturer, Zoology and Entomology*, 1954
A.B., Kalamazoo College; M.S., Kansas State; Sc.D., Johns Hopkins.
- POSEY, HENRY G. _____ *Associate Professor of Forestry*, 1950, 1959
B.S.F., M.S.F., North Carolina State.
- PRATHER, EDMUND E. _____ *Associate Professor of Zoology and Entomology*, 1942, 1950
B.S., Auburn University; M.S., Michigan.
- **PRATHER, ELIZABETH _____ *Instructor in Home Economics*, 1955
B.S., M.S., Auburn University.
- PRESTRIDGE, JAMES ALBERT JR. _____ *Associate Professor of Architecture*, 1947, 1954
B.S., Mississippi State; B.Arch., Auburn University; M.S.Arch., Columbia.
- *PRESTRIDGE, VIRGINIA _____ *Instructor in Economics and Business Administration*, 1948
B.S., Auburn University; M.A., Columbia.
- PRICE, EDWIN O. _____ *Professor of Chemistry*, 1946, 1957
A.B., Colorado; M.S., Ph.D., Ohio State.

* Temporary.

** On leave.

- PRIEST, MELVILLE S. _____ *Head Professor of Civil Engineering*, 1955, 1958
B.S., Missouri; M.S., Colorado; Ph.D., Michigan.
- PRUETT, HERMAN T. _____ *Assistant Professor of Agricultural Education*, 1949
B.S., M.S., Auburn University.
- PUNKE, HAROLD H. _____ *Professor of Education*, 1949
B.S., M.S., Illinois; Ph.D., Chicago.
- RANNY, J. BUCKMISTER _____ *Associate Professor of Speech and Head of the*
B.A., M.A., New York; Ph.D., Ohio State. *Speech and Hearing Clinic*, 1957
- RASH, JOE M. _____ *Associate Professor of Pharmacy*, 1948
B.S., Carson-Newman; B.S., M.S., Auburn University.
- REA, ROBERT R. _____ *Associate Professor of History*, 1950, 1955
B.A., Friends; M.A., Ph.D., Indiana.
- REAGAN, HUGH D. _____ *Assistant Professor of History*, 1948, 1953
B.A., M.A., Emory.
- REED, IRVIN F. _____ *Research Lecturer, Agricultural Engineering*, 1957
B.S., A.E., Nebraska; M.S., Ohio State.
- RENARD, BLANCA _____ *Assistant Professor of Music*, 1955
Graduate: National Conservatory, Santiago, Chile; Stern Conservatory, Berlin, Germany.
- RENOLL, ELMO S. _____ *Associate Professor of Agricultural Engineering*, 1949, 1955
B.S., Auburn University; M.S., Iowa State.
- REYNOLDS, ALFRED WADE _____ *Head Professor of History and Government*, 1913, 1950
B.S., M.S., Auburn University; M.A., Ph.D., California.
- REYNOLDS, GEORGE N. _____ *Instructor in Economics and Business Administration*, 1957
A.B., North Carolina; M.A., Florida.
- *RICE, MARGARET G. _____ *Instructor in Music*, 1959
B.M., M.Mus., Illinois.
- RICE, MARTIN R. _____ *Assistant Professor of Music*, 1959
B.Mus.Ed., Wichita; M.Mus., Michigan.
- RICHARDS, DEAN BOYD _____ *Professor of Forestry*, 1951, 1958
B.S., Colorado A. & M.; M.S., Ph.D., Syracuse.
- RICHARDSON, BOONE YATES _____ *Assistant Professor of Agricultural Engineering*, 1954
B.S., M.S., Louisiana State.
- RICHARDSON, JESSE M. _____ *Professor of Economics and Business*
B.S., M.A., Alabama; Ph.D., Peabody. *Administration*, 1943, 1957
- RICHARDSON, ROBERT STANLEY _____ *Instructor in Music*, 1956, 1959
B.S., M.Ed., Auburn University.
- RITCHIE, VIRGINIA C. _____ *Associate Professor of Home Economics*, 1945, 1954
B.S., M.S., Kentucky.
- RITLAND, RAYMOND W. _____ *Professor of Economics and Business*
B.S.C., M.A., Ph.D., Iowa. *Administration*, 1957, 1959
- *ROBBINS, CARL T. _____ *Instructor in Economics and Business Administration*, 1959
B.S., M.S., Mississippi State.
- *ROBERSON, NANCY C. _____ *Instructor in History*, 1959
A.B., Randolph-Macon; M.A., Alabama.
- ROBERTSON, BENJAMIN T. JR. _____ *Instructor of Physiology and Pharmacology*, 1959
B.S., Kentucky; D.V.M., Auburn University.
- ROBINSON, A. JUDE _____ *Associate Professor of Mathematics*, 1923, 1935
B.S., Clemson; M.S., Emory.
- ROBINSON, JANE _____ *Instructor in English*, 1958
B.A., M.A., Arkansas.
- ROBINSON, RUBY LEA _____ *Assistant Professor of Home Economics Education*, 1952
B.S., Alabama College; M.S., Cornell.
- ROGERS, HOWARD TOPPING _____ *Head Professor of Agronomy and Soils*, 1942, 1951
B.S., Virginia Polytechnic Institute; M.S., Michigan State; Ph.D., Iowa State.
- ROLLINS, GILBERT H. _____ *Associate Professor of Dairy Husbandry*, 1948, 1953
B.S., M.S., Virginia Polytechnic Institute.
- ROSE, EITHEL _____ *Professor of Home Economics*, 1959
B.S., M.S., Indiana Teachers College; Ph.D., Ohio State.

- ROSEN, MELVIN..... *Assistant Professor of Men's Physical Education*, 1955, 1959
B.S., State University of Iowa.
- ROUSE, ROY D..... *Professor of Agronomy and Soils*, 1949, 1956
B.S., M.S., Georgia; Ph.D., Purdue.
- RUNYAN, CHARLES C. JR..... *Assistant Professor of Air Science*, 1957
B.A., Mississippi; Captain, United States Air Force.
- RUSH, KATHRYN S..... *Assistant Professor of Home Economics*, 1949, 1951
B.S., M.S., Auburn University.
- RUSSELL, ERSKINE..... *Instructor in Men's Physical Education*, 1958
B.S., M.S., Auburn University.
- RUTLEDGE, WALTER K..... *Instructor in Economics and Business Administration*, 1959
B.S., Auburn University.
- SALMON, WILLIAM D..... *Professor of Animal Husbandry and Nutrition*, 1922, 1957
B.S., Kentucky; M.A., Missouri; D.Sc., Kentucky.
- SANDERS, A. DEWEY..... *Assistant Professor of Mathematics*, 1946, 1947
B.A., DePauw; M.A., Michigan.
- *SANDERS, BARBARA BINGHAM..... *Instructor in Psychology*, 1951, 1954
B.S., Washington State; M.S., Auburn University.
- SANDERS, J. W..... *Assistant Professor of Speech*, 1952, 1959
B.A., Tampa; B.A., M.A., Florida.
- SANDERS, RAYFORD RUSSELL..... *Assistant Professor of Aeronautical Engineering*, 1954, 1957
B.A.E., M.M.E., Auburn University
- SANDERS, ROBERT H..... *Professor of Sociology*, 1950, 1957
B.A., M.A., Texas Christian; Ph.D., State College of Washington.
- SAUNDERS, CHARLES RICHARD..... *Head Professor of Chemistry*, 1924, 1950
B.S., M.S., Auburn University; Ph.D., Nebraska.
- SAUNDERS, ROBERT LAWRENCE..... *Assistant Professor of Education, Assistant to the Dean of the School of Education, and Coordinator of Field Services*, 1957, 1958
B.S., M.S., Ed.D., Auburn University.
- SCARBOROUGH, JOHN LEWIS..... *Associate Professor of Mechanical Engineering*, 1947, 1954
B.A.E., B.M.E., Auburn University; M.S., Alabama.
- SCARSBROOK, CLARENCE E..... *Professor of Soils*, 1953, 1959
B.S., Auburn University; Ph.D., North Carolina State.
- SCHAER, WALTER..... *Associate Professor Industrial Design*, 1960
Federal Certificate of Proficiency, Bienne Craft School; Federal Master's Diploma, Master's School for Furnishing & Interior Design, Berne; Diploma in Industrial Design, Ulm School of Design.
- SCHEID, PAUL W..... *Associate Professor of Education*, 1957
A.B., Miami University, Ohio; A.M., Duke; Ph.D., Ohio State.
- SCHEIWE, ANN M..... *Instructor in Aeronautical Engineering*, 1959
B.A.E., Auburn University.
- SCHELL, FRED G..... *Head Professor of Large Animal Surgery and Medicine*, 1956, 1959
D.V.M., Auburn University.
- SCHOONMAKER, JOHN C..... *Assistant Professor of Mathematics*, 1959
B.S., M.A., New York.
- SCHRADER, GLENN A..... *Professor of Chemistry*, 1930, 1949
B.S., M.S., Beloit; Ph.D., Wisconsin.
- SCHRADER, JOHN E..... *Instructor in Art*, 1959
B.A., Lawrence College; M.F.A., Cranbrook.
- SEAL, JAMES LEWIS..... *Professor of Botany*, 1929, 1954
B.S.Agr., Clemson; M.S., Iowa State; Ph.D., Minnesota.
- SELLERS, LEWIS L..... *District Supervisor of Vocational Agriculture and Itinerant Teacher Trainer*, 1937, 1958
B.S., M.S., Auburn University.
- SENN, C. L..... *Instructor in Men's Physical Education*, 1945, 1948
B.S., Auburn University.
- SEWELL, ANNIE MARIE..... *Instructor in English*, 1942
A.B., Huntingdon; M.S., Auburn University.
- SHAW, WINFRED A..... *Professor of Mechanical Engineering*, 1958
B.S.G.E., Mississippi; M.S.E.M., Texas; Ph.D., Stanford.

* Temporary.

- SHELL, E. WAYNE.....Assistant Professor of Zoology, 1959
B.S., M.S., Auburn University; Ph.D., Cornell.
- SHERLING, WILLIAM G.....Associate Professor of Aeronautical Engineering, 1947, 1954
B.A.E., Auburn University; M.S.A.E., Georgia Tech.
- SHIELDS, ALAN J.....Assistant Professor of Sociology, 1956, 1959
B.A., M.A., North Texas State College.
- *SHIH, CORNELIUS CHUNG-SHENG.....Associate Professor of Civil Engineering, 1959
B.S., National Taiwan University; M.S., Ph.D., Michigan State.
- SIMPSON, HASSELL A.....Instructor in English, 1959
B.S., Clemson; M.A., Florida.
- SKELTON, ROBERT BEATTIE.....Head Professor of Foreign Languages, 1939, 1954
A.B., Michigan State Normal; M.A., Ph.D., Michigan; Certificado, University of Brazil; Certificado, University of Chile.
- SKIPPER, EDWARD E.....Assistant Professor of Air Science, 1957
B.S., Auburn University; Captain, United States Air Force.
- SLAGH, TIM DENNIS.....Assistant Professor of Electrical Engineering, 1959
B.S., Michigan College of Mining & Technology; M.S., Auburn University.
- SMITH, FLOYD S.....Associate Professor of Mechanical Engineering, 1946, 1955
B.S., Virginia Military Institute; B.S., B.M.E., M.S., Auburn University.
- SMITH, HARVEY L.....Instructor of Naval Science, 1957
Signalman, First Class, United States Navy.
- SMITH, HULDA RUTLAND.....Instructor in Home Economics, 1952, 1954
B.S., M.S., Auburn University.
- *SMITH, JAMES P.....Instructor in Mechanical Engineering, 1958
B.M.E., Louisville Speed Scientific School.
- *SMITH, MARY HELEN.....Instructor in Mathematics, 1958
B.S., Auburn University.
- SMITH, WILLIAM STEPHEN.....Professor of Speech, 1952, 1959
B.Ed., N.I.S.T.C., DeKalb; M.A., Ph.D., Stanford.
- SPANN, RANSOM D.....Head Professor of Electrical Engineering, 1915, 1951
B.E., E.E., Auburn University.
- SPARKS, FRANK M.....Associate Professor of Physics, 1943, 1946
B.S., Auburn University; M.A., Ph.D., Illinois.
- SPENCER, LILLY H.....Associate Professor of Home Economics, 1928, 1947
B.S., M.S., Oklahoma A. & M.
- SPIDLE, MARION W.....Head Professor of Home Economics, 1938, 1942
B.S., Alabama College; B.S., M.A., Columbia.
- SPRAGUE, ALBERT T. JR.....Associate Professor of Electrical Engineering, 1949
B.S., United States Naval Academy; M.S., Harvard.
- SQUIERS, C. D.....Associate Professor of Animal Husbandry and Nutrition, 1950
B.S., M.A., Ph.D., Missouri.
- STALNAKER, CARROLL C.....Associate Professor of Economics and Business
B.A., Iowa State Teachers; M.A., Iowa. Administration, 1937, 1946
- STEELE, H. ELLSWORTH.....Research Professor of Economics and
B.A., M.A., Nebraska; Ph.D., Ohio State. Business Administration, 1949, 1951
- *STEELE, KENNETH E.....Instructor in Physics, 1956, 1958
B.E.P., Auburn University.
- STEVENS, FRANK J.....Professor of Chemistry, 1947, 1959
B.S., Illinois; Ph.D., Iowa State.
- *STEWART, ROBERT F.....Instructor in Mathematics, 1957
B.S., Wheaton College; M.S., Rutgers.
- STEWART, CHARLES DAVID.....Instructor in Engineering Graphics, 1959
B.S., Alabama.
- STOUT, CHESTER B. JR.....Instructor of Naval Science, 1957
Chief Yeoman (SS), United States Navy.
- STOVALL, JOHN A. JR.....Instructor in Speech, 1956
B.A., Mississippi; M.A., Mississippi Southern.

- STOVES, WILLIAM H. *Assistant Professor of Industrial Laboratories*, 1946, 1949
B.S., M.S., Auburn University.
- STRONG, HOWARD *Assistant Professor of English*, 1947, 1959
B.S., M.S., Auburn University; Ed.D., Teachers College, Columbia.
- STROUD, OXFORD *Assistant Professor of English*, 1950, 1957
B.S., M.A., Auburn University.
- STURKIE, DANA G. *Professor of Agronomy*, 1925, 1942
B.S., Auburn University; M.S., Iowa State; Ph.D., Michigan State.
- STURROCK, WALTER *Associate Professor of Electrical Engineering*, 1958
B.M.E., Cornell.
- SUMMER, HENRY M. *Associate Professor of Electrical Engineering*, 1947, 1954
B.S., Clemson A & M; B.E.E., Auburn University; M.S.E.E., North Carolina State.
- SWALLEY, JUDE L. *Instructor of Small Animal Surgery and Medicine*, 1959
B.S., D.V.M., Kansas State College.
- SWINGLE, HOMER SCOTT *Professor of Zoology and Entomology*, 1929, 1939
B.S., M.S., D.Sc., Ohio State.
- SYKES, MALTBY *Professor of Art*, 1942, 1954
Studied: Wayman Adams, Diego Rivera, John Sloan, George C. Miller, Fernand Leger, Stanley William Hayter, and Andre Lhote.
- TAMBLYN, JOHN W. *Associate Professor of Music*, 1948, 1957
B.S., Auburn University; M.Mus., Eastman School of Music.
- TANGER, GERALD EUGENE *Associate Professor of Mechanical Engineering*, 1958
B.S., South Dakota School of Mines and Technology; M.S., Brown University; Ph.D., Oklahoma State.
- TAYLOR, EDWARD B. *Assistant Professor of Textile Technology*, 1957
B.S., Davidson College; B.S.T.M., North Carolina State College; M.S., Columbia.
- *TEATE, JAMES LAMAR *Instructor in Forestry*, 1958
B.S.F., M.S., Georgia.
- TERESA, GEORGE W. *Assistant Professor of Bacteriology*, 1959
B.S., Arkansas A & M; M.S., Arkansas; Ph.D., Kansas State College.
- *TERESA, NELLA *Assistant Professor of Home Economics*, 1959
B.S., M.S., Arkansas.
- *TEWFIK, MOHAMED MOHSEN *Associate Professor of Civil Engineering*, 1959
B.Sc., Cairo University; M.Sc., Illinois; Ph.D., Cornell.
- THACKER, HENRY R. *Associate Professor of Civil Engineering*, 1956, 1959
B.S., M.S., Virginia Polytechnic Institute.
- THOMASSON, STANLEY *Assistant Professor of Architecture*, 1959
B.Arch., Tulane.
- THOMPSON, SIDNEY LEE *Associate Professor of Mathematics*, 1937, 1948
B.S., Birmingham-Southern; M.S., Tulane; M.A., Michigan.
- TINCHER, WILBUR A. JR. *Assistant Professor of Education and
Coordinator of Student Personnel Services*, 1958
A.B., M.A., Ed.D., Kentucky.
- TOMLIN, JAMES GROVER *Instructor in Men's Physical Education*, 1958
B.S., Auburn University.
- TORRANS, IDA ANNIE *Instructor in Speech*, 1959
B.A., Northwestern State College; M.A., Louisiana State.
- TUCKER, HOWARD F. *Associate Professor of Animal Husbandry*, 1952, 1958
B.S., M.S., Ph.D., Auburn University.
- TURNER, HENRY F. *Assistant Professor of Zoology-Entomology*, 1950, 1956
B.S., M.S., Auburn University; Ph.D., Iowa State.
- TURNER, LOUISE K. *Assistant Professor of Women's Physical Education*, 1937, 1946
B.A., Southwestern Louisiana Institute; M.A., M.S., Louisiana State.
- TURNER, DEWEY M. *Associate Professor of Animal Husbandry*, 1940, 1946
B.S., Auburn University; M.S., Illinois.
- TYER, DORA *Research Professor of Home Economics*, 1959
B.S., M.A., M.S., Ed.D., Tennessee.

* Temporary.

- UMBACH, ARNOLD W. *Head Professor of Men's Physical Education*, 1944, 1945
B.S., Southwestern State Teachers; M.A., Colorado State College of Education.
- *VALLERY, GEORGIA GIVENS *Instructor in Psychology*, 1951, 1957
B.S., M.A., Louisiana State; M.S., Auburn University.
- VALLERY, H. F. *Associate Professor of Education*, 1950, 1957
B.S., M.A., Louisiana State; M.A., Ed.D., Columbia.
- VANCE, OLLIE LAWRENCE *Instructor in Mechanical Engineering*, 1959
B.M.E., Auburn University.
- VAN DE MARK, MILDRED S. *Associate Professor of Home Economics*, 1938, 1955
B.S., Auburn University; M.A., Columbia.
- VAUGHN, JOHN T. *Assistant Professor of Large Animal Surgery and Medicine*, 1955, 1959
D.V.M., Auburn University.
- VESTAL, DONALD M. JR. *Head Professor of Mechanical Engineering*, 1959
B.S.M.E., B.S.E.E., M.S.M.E., Texas A & M.
- VIVES, DONALD LOUIS *Associate Professor of Chemical Engineering*, 1953, 1957
B.S., M.S., Columbia.
- WALDO, MYRTICE R. *Assistant Professor of Economics and Business Administration*, 1949, 1959
B.S., M.S., Auburn University.
- WALDROP, FLOYD H. *Assistant Professor of Naval Science*, 1959
B.S., U.S. Naval Academy; Major, U.S. Marine Corps.
- WALL, MINNIE *Head, Catalog Dept. (Library), and Assistant Professor*, 1947, 1959
A.B., Tift College; B.S.L.S., Peabody College for Teachers; M.Educ., Auburn University.
- WALKER, DONALD F. *Associate Professor of Large Animal Surgery and Medicine*, 1958
D.V.M., Colorado State.
- WALTERS, EDWIN S. *Assistant Professor of Military Science and Tactics*, 1959
B.S., Kentucky; M.S., New York; Captain, Engineers.
- WALTON, MARTHA *Assistant Professor of Women's Physical Training*, 1945, 1952
B.S., Auburn University; M.A., Colorado State College of Education.
- WARD, BENJAMIN P. *Associate Professor of Mechanical Engineering*, 1950
B.S., U.S. Naval Academy; M.S.M.E., Columbia.
- *WARD, CHARLOTTE BERKLEY REED *Instructor in Physics*, 1959
B.S., Kentucky; M.S., Ph.D., Purdue.
- WARD, CURTIS HOWARD *Associate Professor of Chemistry*, 1957
B.S., Indiana State Teachers; M.S., Kentucky; Ph.D., Purdue.
- WARD, JOSEPH S. *Assistant Professor of Psychology*, 1959
B.S., M.S., Tulane.
- WARE, LAMAR M. *Head Professor of Horticulture*, 1923, 1931
B.S., M.S., Auburn University.
- WARNER, JOHN ELLSWORTH *Circulation Librarian and Instructor*, 1959
B.S., B.S.L.S., State College for Teachers (Albany, New York); M.A., Teachers College (Columbia University).
- WARREN, WILLIAM MICHAEL *Head Professor of Animal Husbandry and Nutrition*, 1955, 1957
B.S., Michigan State; M.S., Texas A. & M.; Ph.D., Missouri.
- WASHINGTON, WILLIAM TAYLOR *Instructor in Men's Physical Education*, 1958
B.S., Auburn University.
- WATERS, WILLIAM T. *Associate Professor of Textile Technology*, 1958
B.S.T.E., Clemson; M.S., Institute of Textile Technology.
- WATWOOD, VERNON B. *Professor of Civil Engineering*, 1929, 1941
B.C.E., M.C.E., Auburn University.
- WEAR, JOHN I. *Professor of Soils*, 1938, 1959
B.S., M.S., Auburn University; Ph.D., Purdue.
- WEAVER, CHARLES HADLEY *Westinghouse Professor of Electrical Engineering*, 1959
B.S.E.E., M.S.E.E., Tennessee; Ph.D., Wisconsin.
- WELLS, JOSEPH WILLARD *Associate Professor of Architecture*, 1956
B.Arch., Cornell University.
- *WHETSTONE, WILLIAM D. *Instructor in Mechanical Engineering*, 1959
B.M.E., Auburn University.

- WHITE, JOHN BENJAMIN.....Instructor in Forestry, 1958
B.S.F., Georgia; M.F., North Carolina State.
- WHITE, MORRIS.....Associate Professor of Agricultural Economics, 1950
B.S., Auburn University; M.S., Ph.D., Purdue.
- WHITE, RAYMOND H.....Professor of Education, 1950, 1951
B.S., Southwest Missouri State; A.B., Drury; A.M., Chicago; Ed.D., Teachers College, Columbia.
- WHITE, VIRGINIA.....Assistant Professor of Home Economics, 1954, 1956
B.S., Alabama College; M.S., Tennessee & Auburn University.
- WHITEFORD, ROBERT D.....Associate Professor of Anatomy and Histology, 1959
M.S., Iowa State College; D.V.M., Georgia.
- WHITINGER, LEON E.....Head, Reference Dept. (Library), and Associate
B.S., Minnesota State College; M.A.L.S., Minnesota. Professor, 1958, 1959
- WHITT, RICHARD E.....Instructor in Electrical Engineering, 1959
B.E.E., Auburn University.
- WIGGINS, ACEE M.....Professor of Large Animal Surgery and Medicine, 1946, 1959
M.S., Kansas State College; D.V.M., Auburn University.
- WIGGINS, EARL L.....Associate Professor of Animal Husbandry, 1956
B.S., M.S., Oklahoma A. & M.; Ph.D., Wisconsin.
- WILBANKS, MARY ELIZABETH.....Gift and Exchange Librarian and Instructor, 1959
A.B., Alabama College; M.A., Emory; M.S.L.S., North Carolina.
- WILLIAMS, BILL M.....Instructor in Engineering Graphics, 1959
B.S., Auburn University.
- WILLIAMS, BYRON B. JR.....Associate Professor of Pharmacology, 1951, 1954
B.S., M.S., Ph.D., Florida.
- WILLIAMS, ELIZABETH GRIMES.....Assistant Professor of Economics and
B.S., M.S., Auburn University. Business Administration, 1946, 1959
- WILLIAMS, ERNEST.....Professor of Mathematics, 1934, 1948
B.S., Birmingham-Southern; M.S., Auburn University; Ph.D., Michigan.
- WILLIAMS, HUGH.....Associate Professor of Art, 1957, 1959
B.App.Art, Auburn University; M.A., Columbia.
- WILLIAMS, JERE L.....Instructor in English, 1958
B.S., Birmingham-Southern; M.A., Tulane. (Resigned Effective Sept. 15, 1959.)
- WILLIAMS, MARVIN O.....Assistant Professor of Aeronautical Engineering, 1942, 1944
A.B., Birmingham-Southern; B.A.E., Auburn University.
- WILLIAMSON, EDWARD C.....Assistant Professor of History, 1957
A.B., M.A., Florida; Ph.D., Pennsylvania.
- WILSON, WILFRID.....Professor of Mathematics, 1956
B.S., London, England; Dr.Math.etPhys., Amsterdam, Netherlands.
- WINGARD, JOHN WILLIAM.....Instructor in Industrial Laboratories, 1957
B.S., Auburn University.
- WINGARD, ROBERT E.....Research Professor of Chemical Engineering, 1932, 1957
B.S., M.S., Auburn University.
- *WOOD, HARVEY G.....Instructor in Physics, 1958
B.A., Olivet College.
- WOODALL, JAMES R.....Associate Professor of English, 1952, 1957
B.S., Murray State; M.A., Kentucky; Ph.D., Vanderbilt.
- WOODLEY, CHARLES H.....Assistant Professor of Physiology and
M.S., D.V.M., Auburn University. Pharmacology, 1958, 1959
- YEAGER, J. H.....Professor of Agricultural Economics, 1946, 1957
B.S., M.S., Auburn University; Ph.D., Purdue.
- YEH, GEORGE C.....Associate Professor of Chemical Engineering, 1957
B.S., National Taiwan University; M.S., Ph.D., University of Toronto, Canada.
- YOUNG, LUTHER M.....Associate Professor of Men's Physical
B.S., M.S., Auburn University. Education, 1944, 1959
- ZIEGLER, PAUL F.....Associate Professor of Chemistry, 1949, 1958
B.S., Otterbein; M.S., Cincinnati.

Graduate Assistants, Teaching and Research Fellows

- ADAMS, ROBERT M. _____ *Graduate Assistant in English*, 1959
B.S., Northern State Teachers College; B.D., Garrett Theological Seminary.
- ALGER, ROBERT C. _____ *Graduate Assistant in English*, 1958, 1959
B.A., Minnesota.
- ARNOLD, ANNIE BELLE _____ *Graduate Assistant in History and Government*, 1958, 1959
A.B., Huntingdon.
- ATKINS, LEAH RAWLS _____ *Graduate Assistant in History and Government*, 1958, 1959
B.S., Auburn University.
- ATKINSON, RONALD O. _____ *Graduate Assistant in Mathematics*, 1959
B.S., Jacksonville State College.
- BARKLEY, JOHN A. _____ *Graduate Assistant in Chemistry*, 1958
B.S., The Citadel.
- BARNETT, JOAN WATKINS _____ *Graduate Assistant in English*, 1958, 1959
B.A., Huntingdon.
- BARNETT, RICHARD K. _____ *Graduate Assistant in Physics*, 1959
B.A., Huntingdon.
- BENNETT, CARL M. _____ *Graduate Assistant in Mathematics*, 1958, 1959
B.S.E.E., Auburn University.
- BLACKWELL, FRANK J. _____ *Graduate Assistant in Chemical Engineering*, 1959
B.S., Auburn University.
- BOGUE, ROY BUSHNELL _____ *Graduate Assistant in Mathematics*, 1958, 1959
B.E.E., Auburn University.
- BONNER, MYRTLE S. _____ *Graduate Assistant, Elementary Education*, 1959
B.S., Jacksonville State; M.S., Auburn University.
- BREYER, MARY ANN _____ *Graduate Assistant in English*, 1959
B.A., Vanderbilt.
- BULLINGTON, RUENETTE _____ *Graduate Assistant in Home Economics*, 1959
B.S., Berry College.
- BUNTYN, TOMMY JOE _____ *Graduate Assistant in Mathematics*, 1959
B.A., Mississippi State.
- BURDESHAW, JOHN A. _____ *Graduate Assistant in Mathematics*, 1959
B.S., Auburn University.
- BURTON, EUGENE _____ *Graduate Assistant in Mathematics*, 1959
B.S., Henderson State College; M.A., Arkansas.
- CANTRELL, RONALD EMMET _____ *Graduate Assistant, Agricultural Education*, 1959
B.S., M.S., Auburn University. (Resigned Effective September 15, 1959.)
- CHANG, JOANNE _____ *Research Fellow in Home Economics*, 1959
B.Ed., Taiwan Normal University.
- CHAPMAN, ELOUISE R. _____ *Graduate Assistant in English*, 1959
B.S., Auburn University. (Resigned Effective June 15, 1959.)
- CLANTON, DONALD H. _____ *Graduate Assistant in Mathematics*, 1956, 1959
B.S., M.A., Baylor.
- CLAPP, DONALD LEE _____ *Graduate Assistant in Chemistry*, 1957
B.S., Oregon State College.
- CLARK, LAWRENCE B. _____ *Graduate Assistant in Civil Engineering*, 1959
B.C.E., Auburn University.
- CRABTREE, CYNTHIA ELAINE _____ *Graduate Assistant in English*, 1959
B.A., Huntingdon.
- CROCKER, GEORGE T. _____ *Graduate Assistant in Mathematics*, 1956, 1959
B.S., Union University; M.S., Auburn University.
- DAVIS, LUTHER E. _____ *Graduate Assistant, Educational Administration*, 1959
B.A., M.S., Auburn University.
- DIXON, CAROLYN J. _____ *Graduate Assistant, Secondary Education*, 1959
B.S., Auburn University.
- DIXON, EDMOND DALE _____ *Graduate Assistant in Mathematics*, 1958, 1959
B.S., Memphis State.

- DRAPER, EVELYN B. _____ *Graduate Assistant in Pharmacy*, 1959
B.S., Auburn University.
- DUPREE, DANIEL EDWARD _____ *Research Fellow in Mathematics*, 1957, 1959
B.S., Louisiana Polytechnic Institute.
- FRANCIS, ROBERT C. _____ *Graduate Assistant in Civil Engineering*, 1958
B.C.E., Auburn University.
- FRTZ, PAUL J. _____ *Graduate Assistant in Chemistry*, 1958
A.B., Washington University (St. Louis).
- FUNCHESS, MARY SUE M. _____ *Graduate Assistant, Secondary Education*, 1959
B.S., M.S., Auburn University. (Resigned Effective September 15, 1959.)
- GARNER, BILLY O. _____ *Graduate Assistant in Economics and Business Administration*, 1959
B.of Aero.Admin., Auburn University.
- GARNER, JACKIE B. _____ *Graduate Assistant in Mathematics*, 1955, 1959
B.S., Louisiana Polytechnic Institute, M.S., Auburn University.
- GEYER, CAROLYN SMITH _____ *Graduate Assistant in English*, 1959
B.A., Augustana College.
- GRAF, RALPH R. _____ *Graduate Assistant in Electrical Engineering*, 1959
B.E.E., Auburn University.
- GRANT, C. WESLEY _____ *Graduate Assistant, Agricultural Education*, 1959
B.S., M.S., Auburn University. (Resigned Effective September 15, 1959.)
- GREEN, AUGUSTUS H. _____ *Graduate Assistant in Mathematics*, 1958, 1959
B.E.E., Auburn University.
- GRIFFIN, ROBERT A. _____ *Graduate Assistant, Agricultural Education*, 1959
B.S., Auburn University.
- HALL, THELMA RUTH _____ *Graduate Assistant in English*, 1959
B.S., Auburn University.
- HENDRICK, LYNN D. _____ *Graduate Assistant in Physics*, 1959
B.E.P., Auburn University.
- HOLLADAY, SYLVIA A. _____ *Graduate Assistant in English*, 1958, 1959
B.S., Auburn University.
- HOLLOWAY, DANNA _____ *Graduate Assistant in English*, 1958, 1959
A.B., Centenary College of Louisiana.
- HOLMAN, JOHN ALLEN _____ *Graduate Assistant in Physics*, 1958
B.E.D., Auburn University. (Resigned Effective March 15, 1959.)
- HORTMAN, MATTIE MOORE _____ *Graduate Assistant in English*, 1958, 1959
A.B., Judson.
- HOWARD, KAY _____ *Graduate Assistant in Home Economics*, 1959
B.S., Tennessee.
- HUMPHREY, JOHNNY M. _____ *Graduate Assistant in Mathematics*, 1958, 1959
A.B., B.S., Jacksonville State College.
- JACKSON, MARGARET ELLEN _____ *Graduate Assistant in Chemistry*, 1956
B.S., Muskingum College; M.S., Auburn University.
- JONES, BOBBIE ANN _____ *Graduate Assistant, Psychology*, 1959
B.S., Auburn University.
- JONES, JAMES F. _____ *Graduate Assistant in Chemistry*, 1958
B.S., Auburn University.
- KENNEDY, JOHN D. _____ *Graduate Assistant, Educational Administration*, 1959
B.S., Livingston State College.
- KIM, YONG WOON _____ *Graduate Assistant in Mathematics*, 1958, 1959
B.S., The Chosun University, Kwangju, Korea.
- LANDERS, JOHNNY BEVON _____ *Graduate Assistant in Chemistry*, 1957
B.S., Florence State Teachers College.
- LAWSON, SAMMY _____ *Graduate Assistant in English*, 1959
B.A., Huntingdon.
- LEAIRD, DAVID CARSON _____ *Graduate Assistant in Mathematics*, 1958, 1959
B.S., Auburn University.
- LOCKER, JOHN L. _____ *Graduate Assistant in Mathematics*, 1952, 1959
B.S., M.S., Auburn University.

LOMAX, JANIE BETH B.S., Mississippi College.	Graduate Assistant in Mathematics, 1959
LOPEZ, ANTONIO VINCENT B.S., Auburn University.	Graduate Assistant, Pharmaceutical Chemistry, 1959
MAJOR, PAUL E. G. B.S., Auburn University.	Graduate Assistant in Mathematics, 1958, 1959
MARTIN, RALPH H. B.S., Troy State.	Graduate Assistant, Secondary Education, 1959
MAY, VERNON B. B.E., Johns Hopkins.	Research Fellow in Chemical Engineering, 1959
MCCOY, MARVIN EUGENE B.B.C., B.C.E., Auburn University.	Graduate Assistant in Civil Engineering, 1959
MCDONALD, FRED L. B.A., Valdosta State College.	Graduate Assistant in English, 1959
McKINNEY, GORDON W. B.S., Auburn University.	Graduate Assistant in Chemistry, 1958
McMAHAN, WILLIAM B.S., Auburn University.	Graduate Assistant in Chemistry, 1959
MILLIS, SUE B.S., Auburn University.	Graduate Assistant in Home Economics, 1959
MITCHELL, AUBREY R. B.A., Huntingdon.	Graduate Assistant in English, 1959
MOLAISSON, WOODROW J. B.A., Southwestern Louisiana College.	Graduate Assistant in English, 1959
MONTFORT, HAROLD DE A.A., Texas Military College; B.A., Chicago; M.A., Alabama. (Resigned Effective September 15, 1959.)	Graduate Assistant, Psychology, 1959
MOORE, JAMES ALEXANDER JR. B.S., Jacksonville State College.	Graduate Assistant in Mathematics, 1958, 1959
MORRIS, CLETUS E. B.S., Auburn University.	Graduate Assistant in Chemistry, 1959
NICKERSON, JAMES O. JR. B.S., Arizona State College.	Graduate Assistant in Economics and Business Administration, 1959
O'NEIL, JAMES MYRON B.S., Millsaps College.	Graduate Assistant in Mathematics, 1958, 1959
PARKER, CHARLIE B.S., Auburn University.	Graduate Assistant, Psychology, 1959
PARRISH, CAMELIA ANN B.S., Auburn University.	Graduate Assistant in Chemistry, 1959
PARSONS, DONALD FREY B.S.C.E., Virginia Military Institute	Graduate Assistant in Civil Engineering, 1957, 1959
PEACE, GEORGE MARION B.E.E., Auburn University.	Graduate Assistant in Electrical Engineering, 1959
PHILLIPS, HIRAM E. B.S., Auburn University.	Graduate Assistant, Agricultural Education, 1959
PIPER, ROBERT J. B.S., Auburn University.	Graduate Assistant in Chemistry, 1955
PRICE, FRANK H. B.S., Auburn University.	Graduate Assistant, Psychology, 1959
PURVIS, EDWARD ELI B.E.P., Auburn University.	Graduate Assistant in Physics, 1959
RAY, ANNETTE B.S., Auburn University.	Research Fellow in Home Economics, 1959
REGISTER, W. RAYMOND A.B., Howard.	Graduate Assistant in English, 1959
RIEMER, JANET T. B.S., Douglass College (Rutgers University), New Jersey.	Graduate Assistant in Home Economics, 1958

- ROGERS, CHARLES L. *Graduate Assistant in Electrical Engineering*, 1959
B.E.E., Auburn University.
- ROGERS, LUTHER *Graduate Assistant, Elementary Education*, 1959
B.S., West Georgia.
- ROY, CLARENCE H. *Graduate Assistant in Chemistry*, 1956
B.S., M.S., Auburn University.
- RUTKIS, ANDREZ *Graduate Assistant in Chemistry*, 1959
B.S., Upsala College.
- SANCHEZ-CALDAS, JOSE' *Graduate Assistant in Chemistry*, 1959
B.S., University of Puerto Rico.
- SCHEIWE, JOHN P. *Research Fellow in Physics*, 1959
B.S.E.P., Auburn University.
- SELLERS, JAMES LOUIE *Graduate Assistant, Secondary Education*, 1959
B.S., Troy State.
- SELVEY, BARBARA H. *Graduate Assistant in Economics and Business
Administration*, 1959
B.S., Auburn University.
- SHERER, CHARLES S. *Graduate Assistant in Chemistry*, 1959
B.S., Florence State College.
- SMITH, NORA FRANCES *Graduate Assistant in Mathematics*, 1958, 1959
B.S.E.E., Auburn University.
- SMITH, WESLEY E. *Graduate Assistant in Chemistry*, 1959
B.S., Maryville College.
- STRUCK, ROBERT F. *Research Fellow in Chemistry*, 1958, 1959
B.S., M.S., Auburn University.
- STURKIE, CONNIE *Graduate Assistant in Women's Physical Education*, 1959
B.S., Auburn University.
- THORNTON, CARLENE SELF *Graduate Assistant, Psychology*, 1958
B.A., Howard College.
- TURNAGE, MARTHA *Graduate Assistant in Home Economics*, 1958
B.S., Auburn University.
- VACHON, REGINALD *Graduate Assistant, Auburn Research Foundation*, 1959
B.M.E., Auburn University.
- WALLACE, BRUCE H. *Graduate Assistant in History*, 1959
B.S., Jacksonville State College.
- WATERS, IRVING WADE *Graduate Assistant, Pharmacology*, 1959
B.S., Delta State College.
- WEBSTER, PORTER *Research Fellow in Mathematics*, 1952, 1959
B.A., Georgetown College; M.S., Auburn University.
- WIEGAND, KARL EDWARD *Graduate Assistant in Chemistry*, 1958
B.S., Auburn University.
- WOOD, DONALD RAY *Graduate Assistant in Physics*, 1959
B.S.E.P., Auburn University.
- WOROZBYT, T. S. *Graduate Assistant in Physics*, 1959
B.S.P.S., Auburn University.
- YOUNG, RICHARD EARLE *Graduate Assistant in Education*, 1959
B.S., Florence State; M.A., Putney Graduate School of Teacher Education.

Other Officers and Staff

ACHESON, T. E.	Asst. Photographer, Photo. and Duplicating Service, 1959
ADAIR, ELIZABETH M.	Stenographer, Business Office, 1959
ADKINS, EVELYN H.	Secretary of Women's Housing, 1954
AGEE, BARBARA B.	Secretary, Agriculture, 1958
AKRIDGE, SYBLE MARTIN	Clerk "A", Registrar's Office, 1959
ALLGOOD, ERNEST W.	Transportation Foreman, Buildings and Grounds, 1948
ALLGOOD, JAMES L.	Maintenance Custodian, Women's Dormitories, 1954
ALLGOOD, JOSEPHINE	Stock Clerk, Food Service, 1949, 1959
AMES, LAVERNE	Secretary, Field Services, School of Education, 1959
ATTLEBERGER, FREDERICK RAYMOND	Laboratory Technician, Infirmary, 1941
M.T., Franklin School of Science and Arts.	
BAGBY, DELLA M.	Secretary, Agricultural Education, 1951, 1957
BAILEY, BESSIE	Chief Switchboard Operator, Buildings and Grounds, 1945
BAILEY, SONDR	Stenographer, Secondary Education, 1959
BAKER, PATRICIA	Typist, Physiology and Pharmacology, 1959
BAKER, WILLIAM A.	Engineering Aide, Educational Television, 1959
BARCLAY, RUTH STARR	Clerk, Pharmacy Library, 1959
BARNES, ANNA P.	Head Resident of Lupton Hall and
B.M., Judson.	College Chaperone, 1945, 1956
BARNES, SALLY	Secretary, Secondary Education, 1959
BARROW, WILLIAM OWENS	Senior Counselor, Student Guidance Service, 1948, 1951
A.B., Birmingham-Southern; M.A., Peabody.	
BARTEE, ANNETTE M.	Bookkeeper, Food Service, 1951, 1957
BARTON, FREIDA C.	Head Resident of Susan Smith Cottage, 1956
BARTON, JOHN STANLEY	Senior Pilot, Aeronautical Engineering, 1956
B.S., Auburn University.	
BASS, LOUISE	Secretary, English Department, 1937
BECKWITH, WILLIAM H.	Athletic Sports Editor and Director of
	Sports Public Relations, 1951, 1958
BEESEY, CECILIA ROACH	Clerk "A", Registrar's Office, 1959
BENNETT, MARTHA A.	Stenographer, Alumni Office, 1941, 1948
BENSON, LUCIA ANITA	Clerk, Veterinary Library, 1957
*BENTLEY, CHARLES S. JR.	Counselor, Student Guidance Service, 1956, 1959
B.S., M.S., Auburn University.	
BERRY, ARTHUR D.	Asst. Photographer, Photo. and Duplicating Service, 1957, 1959
BETZ, BARBARA	Clerk, Accounting, Business Office, 1959
BICE, JACQUELINE S.	Clerk "A", Registrar's Office, 1955, 1959
B.S., Auburn University.	
BICKEL, HESTER	Stenographer, Pathology and Parasitology, 1958, 1959
BICKEL, MARGARET	Sr. Tabulating Machine Operator, Business Office, 1945, 1959
BICKEL, O. W.	Assistant to Director, Buildings and Grounds, 1940, 1945
BIDEZ, ALICE B.	Secretary, School of Chemistry, 1934
BLAKE, BRUCE D.	Senior Clerk, School of Science and Literature, 1947, 1959
B.S., Auburn University.	
BLANTON, MARGARET	Administrative Secretary, Vocational Agriculture, 1929, 1952
BLOW, JOHN W.	Assistant Director, Nonacademic Personnel, 1958, 1959
B.S., Florida.	
BOHAN, ROBERT C.	Production Manager, Educational Television, 1955, 1957
B.S., Fordham; M.S., Syracuse.	
BOLAND, MARGORIE HELENE	Clerk, Registrar's Office, 1956, 1957
BOLTON, IDA GAIL	Tabulating Machine Operator, Business Office, 1958, 1959
BONEY, LOUISE B.	Cashier, Business Office, 1945, 1959
BOWMAN, JOSEPH R.	Construction Engineer, Buildings and Grounds, 1945

* Temporary.

*BRACKIN, PATRICIA L.	Secretary, Elementary Education, 1956, 1959
BRANTLEY, MYRNA	Secretary, Auburn Union, 1959
BREEDING, LOIS T.	Typist, Acquisitions Department, Library, 1957
BRITTAIN, JOYCE	Secretary to Training Officer, Agriculture, 1957, 1959
BRITTAIN, R. L.	Manager, Magnolia Hall, 1957
B.F.A., Georgia; M.A., Columbia.	
BRITTIN, RUTH L.	Assistant to the Dean of the Graduate School, 1941, 1951
B.S., M.S., Auburn University.	
BROTHERS, PATRICIA	Secretary, Mechanical Engineering, 1959
BROWN, JANICE H.	Secretary, Physics, 1958
BURKE, MARJORIE C.	Secretary, Student Guidance Service, 1958
BUSH, SHIRLEY	Stenographer, Educational Administration, 1959
CAINE, LEON D.	Floor Maintenance Foreman, Buildings and Grounds, 1946, 1957
CARGILE, ROY C.	Bursar, Business Office, 1945
B.S., M.S., Auburn University.	
CARLSON, NORMAN	Sports Publicist, 1959
B.S., Florida.	
CARLTON, DOROTHY EMMA	Typist, Pre-Engineering, 1958, 1959
CARLTON, VIRGINIA JEANNE	Cashier-Secretary, Magnolia Hall, 1958
CAROTHERS, PEGGY ANN	Secretary, Agriculture, 1958
CARTER, ANN	Lab. Trainee, Physiology and Pharmacology, 1959
CASTLEBERRY, CHERIE	Stenographer, Office of the Dean, Education, 1959
B.S., Auburn University. (Resigned Effective October 31, 1959.)	
CHESNUTT, FRANCES SHI	Secretary to Scholarship Committee, 1956
B.S., Auburn University.	
CLARK, VISTA A.	Secretary, Animal Husbandry and Nutrition, 1957
CLAY, MARJORIE GROTH	Secretary, Auburn Athletic Department, 1954
B.S., Auburn University.	
CLOYD, THOMAS C.	Warehouse Manager, Food Service, 1946, 1951
COLGAN, J. MARIE	Stenographer, Civil Engineering, 1957
CONNELL, PHYLLIS B.	Clerk "A", Catalog Department, Library, 1958, 1959
CONWAY, JEANNETTE	Secretary, School of Veterinary Medicine, 1955, 1959
COOK, LINDA G.	Typist, Agricultural Engineering, 1959
COPELAND, MILDRED B.	Typist "A", Air Force ROTC, 1951
COPPEDGE, HELEN	Dietitian, Alumni Cafeteria, 1952, 1953
B.S., Oklahoma A. & M.	
CORNETT, JACK J.	Graduate Counselor, Magnolia Dormitories, 1959
B.S., Auburn University.	
CORR, RALEIGH	Laboratory Mechanician, Physics, 1958
COX, KATHERINE M.	Secretary, Pharmacy, 1958
COX, OPAL GRACE	Typist, Business Office, 1958, 1959
CROW, OLIVIA P.	Secretary, Food Service, 1959
CULLARS, FRANCES P.	Stenographer, Small Animal Surgery & Medicine, 1950, 1959
CULLARS, J. W.	Maintenance Custodian, Magnolia Hall, 1945
DAVID, LAURA V.	Stenographer, Architecture Department, 1959
DAVIS, ANNE W.	Stenographer, Business Office, 1959
DAVIS, JO ANN	Typist "A", Architecture Administration, 1958, 1959
B.S., Auburn University.	
DAVIS, LUTHER E.	Laboratory Mechanician, Textile Technology, 1955
DAVIS, MAGGIE LEE	Secretary, Naval ROTC, 1952
DAVIS, MARY A.	Clerk, Housing, 1955, 1959
DAVIS, MYRTIE K.	Secretary, Business Office, 1959
DAWKINS, JESSIE K.	Secretary, Educational Television, 1958
DAWSON, JOYCE	Secretary, Psychology, 1958

DAWSON, MILLARD E.	Chief Security Officer, Buildings and Grounds, 1951
DELONEY, SUSAN G.	Assistant Dean of Women, 1955, 1957
B.S., Auburn University; M.S., Cornell.	
DENNIS, MARIANNE	Lab. Technician "A", Anatomy and Histology, 1958, 1959
DONER, BARBARA BRADFORD	Senior Clerk, Registrar's Office, 1956, 1959
DOROUGH, J. D.	Pest Control Foreman, Buildings and Grounds, 1949
DOWLING, ROSE C.	Typist, Industrial Management, 1959
DUCK, MARY	Secretary, Physics, 1959
DUNCAN, ARLENE	Clerk, Catalog Department, Library, 1959
DUNLOP, JOHN W.	Program Director, Educational Television, 1955, 1957
DUNN, BERTA	Adm. Secretary & Secretary to Board of Trustees, President's Office, 1919, 1959
DUPREE, JEHNELL F.	Clerk "A", Engineering Library, 1958, 1959
DURDEN, VIRGINIA	Typist, Engineering Administration, 1959
DURDEN, VIRGINIA	Secretary, Student Affairs, 1959
DURHAM, JUDITH C.	Clerk, Periodical Room, Library, 1959
DURRETT, PAUL K.	Manager, Auburn Union Building, 1957
B.B.A., M.E., East Texas State Teachers.	
EARNEST, SHIRLEY LAVERNE	Clerk, Director's Office, Library, 1958
EDEN, THOMAS M.	Producer-Director, Educational Television, 1953, 1955
B.S., Auburn University.	
EDWARDS, CLERCIE	Assistant Registrar, Registrar's Office, 1938, 1945
A.B., Huntingdon.	
ELLIS, EMILY RUTH	Clerk, Alumni Office, 1958
ELLIS, MATTIE NORMAN	Senior Secretary, School of Agriculture and Agricultural Experiment Station, 1935, 1959
ENFINGER, MRS. KATHRYN	Secretary, Buildings and Grounds, 1957
ENGLE, BETTY RUTH	Clerk "A", Registrar's Office, 1959
ENOCH, MARY BETH	Secretary, Economics and Business Administration, 1958
ESKALD, ELAYNE	Secretary, Engineering Extension, 1959
EVANS, ELLA SMITH	Secretary, School of Science and Literature, 1943, 1944
FALLS, MARTHA B.	Secretary, Dean of Engineering, 1957, 1958
FAULKNER, LEWIS W.	Shop Mechanician, Industrial Laboratories, 1952
FENTON, SUZANNE B.	Typist, English, 1959
*FILES, A. J.	Technician, Physics, 1959
FINCH, PEARL P.	Secretary, Dean of Faculties, 1958
B.S., Flora MacDonald College.	
FINCHER, GLENDA B.	Clerk, Circulation Department, Library, 1959
FINDLEY, EULA	Secretary, Mathematics, 1958
FISHER, CATHERINE C.	Secretary, War Eagle Cafeteria, 1957
FLANAGAN, GEORGE DOUGLAS	Plant Manager, Dairy Husbandry, 1935
FLEMING, DELORIS	Secretary, Magnolia Dormitories, 1959
FLORA, ANN	Program Director, Auburn Union, 1959
B.A., Wisconsin.	
FOSTER, EMILY LIFSEY	Secretary, Auburn Athletic Department, 1948, 1951
B.S., Auburn University.	
FOSTER, GEORGE C.	Assistant to the Dean, School of Science and Literature, 1952
B.S., Auburn University.	
FOSTER, MARY R.	Bookkeeping Machine Operator, Business Office, 1959
FOWLER, FRANCES	Secretary, Pathology and Parasitology, 1959
FOY, JAMES E.	Director, Student Affairs, 1950, 1952
B.A., M.A., Alabama.	
FRANKLIN, BETTY W.	Secretary, Graduate Placement, 1959
GARDNER, DORIS E.	Secretary, Poultry Husbandry, 1949

* Temporary.

*GLASS, GLADYS MILLER A.B., Birmingham-Southern.	Head Resident, Freshman House, 1959
GLIDEWELL, KATHERINE MCCLAIN	Clerk, Registrar's Office, 1959
GOATLEY, CARMIE	Head Resident of Alumni Hall, 1958
GODARD, JERRY B.A., Auburn University.	Resident Counselor, Magnolia Dormitories, 1959
GOODMAN, VIRGINIA	Typist, Home Economics, 1959
GOTHAED, NANCY, R.N.	Evening Supervisor, Infirmary, 1956, 1959
GRANNIS, LORETTA S. B.S., Kentucky.	Dietitian, Women's Dining Hall, 1957, 1959
GRANT, WILLIAM HAROLD B.S., Auburn University.	Assistant Director, Student Affairs, 1958, 1959
GRAY, LEON A. JR.	Laboratory Mechanician, Civil Engineering, 1956
GRAY, VIVIAN FORD	Auditor, Business Office, 1944, 1959
GREEN, ROSE	Typist, Chemical Engineering, 1959
GREGORY, BENJAMIN FRANKLIN	Research Asst., Auburn Research Foundation, 1959
GRIFFIN, FRANCES	Stenographer, Secondary Education, 1959
GRIFFIN, G. T. B.A., Alabama.	Producer-Director, Educational Television, 1957
GRIMES, JOYCE S.	Clerk "A", Auditing, Business Office, 1957, 1959
GRIMMER, GLYNN THOMAS	Draftsman, Buildings and Grounds, 1959
GUTTRIDGE, MARY HELEN	Clerk "A", Auditing, Business Office, 1957, 1959
GUY, SHARON S.	Secretary, Textile Technology, 1958
HACKNEY, SUSIE I.	Secretary, Army ROTC, 1927
HAHN, ALLEN W. B.S., D.V.M., Missouri.	Research Assistant, Auburn Research Foundation, 1958
HAINES, JOSEPHINE WHITTIER A.B., M.A., Ohio Wesleyan University.	Library Assistant, Architecture Library, 1956
HANEY, PATTIE	Alumni Records Supervisor, Alumni Office, 1934, 1948
HANNAH, RUBY B.	Bookkeeping Machine Operator, Business Office, 1954, 1959
HARBIN, FLORENCE M.	Laboratory Technician, Civil Engineering, 1958
HARBISON, PEGGYE M. (Resigned Effective June 30, 1959.)	Secretary, Psychology, 1958
HARMON, PATRICIA	Stenographer, Horticulture, 1959
HARTLEY, ELAINE B. B.S., Valdosta State College.	Secretary, Veterans Affairs, 1958
HATCHETT, LOUISE R.	Switchboard Operator, Buildings and Grounds, 1959
HAWKINS, CARL L.	Shop Foreman, Buildings and Grounds, 1959
HAY, BESS K. B.S., Georgia.	Assistant Dietitian, Magnolia Dining Hall, 1959
HEATON, CAROL, R.N.	Nurse, Infirmary, 1959
HEFNER, ROY	Shop Mechanician, Industrial Laboratories, 1953
HELMS, JAMES O. JR. B.S., Auburn University.	Farm Superintendent, Agricultural Engineering, 1949
HENRY, PAUL W.	Assistant Business Manager, Business Office, 1954
HIGGINS, IRIS F.	Typist, Dean of Women's Office, 1959
HILL, A. A.	Electrical Foreman, Buildings and Grounds, 1943
HOLLINGSWORTH, MABEL P.	Head Resident of Broun Hall, 1956
HOLT, MARY EDNA	Stenographer, Engineering Administration, 1958
HOOD, RICHARD L.	Assistant Janitor Foreman, Buildings and Grounds, 1957
HORNE, MARY ELEANOR	Senior Clerk, Agronomy and Soils, 1922, 1959
HOUGHTON, SHIRLEY I.	Payroll Clerk, Business Office, 1956, 1959
HOWARD, BETTYE	Secretary, Vocational Rehabilitation Service, 1958
HOWARD, JEANNE B.	Senior Clerk, Infirmary, 1951, 1959
HRBEK, PENNY	Stenographer, Botany and Plant Pathology, 1959

* Temporary.

HUDSON, FRANK L.	Supervisor, Auburn Union Custodians, 1959
JAMES, JOHN E. B.S., Oklahoma State.	Herdsmen, Animal Husbandry and Nutrition, 1959
JENKINS, ELIZABETH E.	Head Resident of Harper Hall, 1954, 1956
JENKINS, KATHRYN D.	Clerk, Alumni Office, 1957
JENSEN, JOYE	Clerk, Catalog Department, Library, 1959
JOHNSON, EMMETT	Graduate Counselor, Magnolia Dormitories, 1958, 1959
JOHNSON, KATHLEEN	Typist "A", College Supply Store, 1944, 1959
JOLLY, DORA	Stenographer, Department of Bacteriology, 1959
JOLLY, H. H.	Laboratory Mechanician, Aeronautical Engineering, 1957
JONES, ANN DOYLE	Secretary, Nonacademic Personnel, 1959
JONES, ANN P.	Snack Bar Manager, War Eagle Cafeteria, 1959
JONES, ANNIE MERLE, R.N.	Nurse, Infirmary, 1951, 1955
JONES, BEATRICE K.	Assistant Dietitian, War Eagle Cafeteria, 1958
*JONES, ELSIE M.	Typist, Electrical Engineering, 1959
JONES, JEWEL	Secretary, Zoology-Entomology, 1941, 1943
JONES, JO ANN J.	Payroll Clerk, Business Office, 1957
JONES, LESLIE JACKSON	Farm Foreman, Agronomy and Soils, 1959
JONES, SUE S.	Senior Clerk, Infirmary, 1958, 1959
JONES, W. G.	Assistant Plant Manager, Dairy Husbandry, 1936, 1946
JONES, WILLIAM L.	Supervisor, Photographic and Duplicating Service, 1948
JUMPER, GLENDA	Sales Clerk, College Supply Store, 1959
KAPSALAKIS, DOROTHY L.	Clerk "A", Registrar's Office, 1959
KING, ALICE B.	Senior Secretary, Buildings and Grounds, 1948
KING, ANDREW	Laboratory Mechanician, Mechanical Engineering, 1955
KING, DOROTHY	Clerk, Acquisitions Department, Library, 1959
KING, GAYE	Head Resident of Glenn Hall, 1953
KING, LESTER C.	Photographer, Photographic and Duplicating Service, 1949
KIRBY, BETTY JEAN B.S., M.S., Purdue.	Assistant Dietitian, War Eagle Cafeteria, 1958
KIRKWOOD, ALICE P.	Chief Payroll Clerk, Business Office, 1951, 1959
KNOWLES, NANCY B.S., Auburn University.	Secretary, Music, 1957
KUFFSKI, MARIE	Stenographer, Speech, 1959
LAKE, CLARA J.	Clerk-Typist, Pre-Engineering, 1959
LANDERS, MARTHA S.	Secretary, Women's Physical Education, 1958
LANE, H. M.	Farm Foreman, Horticulture, 1921
LANGLEY, EUNICE	Secretary, Horticulture, 1934
LAPP, ESTHER	Pianist, Women's Physical Education, 1957
LARSEN, MARYNELLE H.	Senior Secretary, Auburn Research Foundation, 1951, 1959
LAUGHLIN, DONNA L.	Secretary, News Bureau, 1959
LEFFARD, PATRICIA B.	Typist "A", Small Animal Surgery and Medicine, 1958, 1959
LESTER, LoRAYNE	Secretary to Director of Libraries, 1958
LEWIS, HOMER N. B.S., M.S., Auburn University.	Supervisor, Veterans' Vocational Agriculture, 1950, 1959
LITTLE, ELOISE M. B.S., Alabama College.	Assistant Dietitian, Women's Dining Hall, 1958
LOGAN, MARY	Head Resident of Owen Hall, 1957
MANLEY, JAMES A. JR.	Graduate Counselor, Magnolia Dormitories, 1959
MANN, JOANNE MARIE, R.N.	Nurse, Infirmary, 1958, 1959
MASON, LELA VIRGINIA	Secretary, Dean of Women's Office, 1956
MATHISON, M. C.	Farm Foreman, Dairy Husbandry, 1942, 1957

* Temporary.

MATTHEWS, MARY JOYCE	Stenographer, Engin
McATEE, THELMA JO B.S., Kentucky.	Assistant Dietitian,
McCLENNY, ELEANOR	Typist, Ag
McCONNELL, FRANCES	Lab. Technician "A"
McKINLEY, MARY MILLER	Head Cashier,
McKINNON, JACQUELYN K.	Secretary, I
McMILLAN, LOLA C.	Clerk "A", Agric
MEAGHER, FRANCES	Typist, Schoo
MILLER, A. A. A.B., Birmingham-Southern; M.S., Auburn University.	Ho
MILLER, ROSE MARIE	Secret
MITCHAM, MARGARET	Te
MIZELL, FRANCES LENOIR	Secretary, Vocatio
MOBLEY, LYNDIA	Stenographer,
MONETTE, PHILLIS JENNINGS	Stenograp
MOONEY, GLENDA A.B., Judson College.	News
MOORE, ALICE W.	Machines Supervisor
MOORE, EVELYN	Head Residen
MOORE, JUDITH B. (Resigned Effective November 5, 1959.)	Stenographer, Arc
MORTON, NELL G.	Ty
MUIR, EMILY	Head I
MULLINS, HAZEL M.	Typist "A", F
MULLINS, MARION DEWITT B.S., Auburn University.	Assistant to Dean, Scho
NELSON, CARLETON EUGENE	Stock Clerk, Schoo
NEWMAN, CHARLES	Graduate C
NIXON, JOAN B.	Typist,
NORMAN, THOMAS J. B.S., Auburn University.	Writer, Education
NORTON, PAUL M. A.B., Birmingham-Southern; M.S., Auburn University.	Coordin
NORTON, SHIRLEY H.	Clerk, Ch
OLDHAM, PEGGY S. B.S., Memphis State University.	Clerk "A", N
**OSBORNE, GLENDYNE	Secretary, Student G
OWEN, MATTIE K.	Cashier,
PACKARD, JO ANN	Typist, Hi
PAGE, BILLIE ANN B.S., Auburn University.	Clerk "A", School of S
PATE, TOMMYE C.	Clerk
PATRICK, MAXINE W. B.S., Alabama College.	Clerk "
PATTERSON, RAYMOND A.	Shop Mechanician, I
PEARSON, ANNE P.	Chief Accountant,
PEARSON, BURTON B.S., Auburn University.	Vocation
PERKINS, JO ELLEN	Senior Secretary, De
PETTY, GLORIA B.A., Howard.	Psychometrist, Stud
PETTY, JEAN GREENHILL	Secretary
PHILLPOTT, CAROL	Stenographer, Office of

PIERCE, JUDGE G.	Maintenance-Custodian, Forest Hills Apartments, 1946, 1959
PLANT, BERNICE V.	Clerk "A", Photo. and Duplicating Service, 1958, 1959
POORE, WILLIAM D.	Director, Nonacademic Personnel, 1957
B.S., M.A., Illinois.	
POPE, LUTHER M.	Stockroom Clerk, Buildings and Grounds, 1953
POWELL, CINDERELLA M.	Supervisor of Women's Dormitories, 1947
POWELL, WILLIAM FRANK	Purchasing Agent, Business Office, 1950
B.S., Auburn University.	
PRICE, LOUISE	Secretary, Agricultural Economics, 1940
PRYOR, OLLIE CLYDE	Processing Mechanician, Auburn Research Foundation, 1959
PUGH, GERALDINE K.	Secretary, Vocational Rehabilitation, 1958
PUGH, WILBUR H.	Property Custodian, Small Animal Surgery & Medicine, 1955, 1958
PUTNAM, LILA BELLE	Testing Mechanician, Auburn Research Foundation, 1959
PUTNAM, ROBERT F.	Processing Mechanician, Textile Technology, 1959
QUILLEN, JAMES R.	Manager, Chemistry Supply Store, 1948
B.S., Auburn University; B.S., Northwestern.	
QUINN, JOSEPH C.	Artist, Education Interpretation Service, 1951
B.S., Auburn University.	
RAINEY, BURROUGH LLOYD	Chief Clerk, Buildings and Grounds, 1956
RAINEY, RUTH S.	Secretary, Forestry, 1958
RAWLS, BYRON F.	Executive Secretary, F.F.A., 1959
REDDERSON, RAYANNA N.	Bookkeeping Machine Operator, Business Office, 1958, 1959
* REESE, SARA	Billing Clerk, Business Office, 1959
(Resigned Effective September 30, 1959.)	
REEVES, SANDRA	Stenographer, Anatomy and Histology, 1959
REGISTER, WILLIAM H.	Processing Mechanician, Auburn Research Foundation, 1959
REW, CHARLES F.	Senior Clerk, Business Office, 1948, 1959
RICHESON, SARAH	Typist, Mechanical Engineering, 1959
ROBERSON, DORIS M.	Clerk, Registrar's Office, 1958
ROBERTS, J. HOYT	Counselor, Vocational Rehabilitation, 1959
B.S., M.S., Jacksonville State College.	
ROBERTS, NATHAN L. JR.	Supply Sergeant, Army ROTC, 1957
Master Sergeant, United States Army.	
ROBINSON, MARIETTA F.	Head Resident of Mell Hall, 1946, 1956
B.A., Carson-Newman; M.A., Mercer.	
RODEN, JEREMIAH JR.	Editor, ALUMNEWS, 1955, 1957
B.S., Auburn University.	
RODEN, REBECCA H.	Secretary to the Dean of the Graduate School, 1956
RODGERS, SALLYE B.	Secretary, News Bureau, 1959
ROLLO, MARGIE	Stenographer, Assistant Dean of Engineering, 1959
ROOKS, NANCY	Stenographer, Office of the Dean, Education, 1959
ROSSER, ANNIE R.	Secretary, Vocational Agriculture, 1956
(Resigned Effective August 15, 1959.)	
ROUNTREE, DONNA	Stenographer, Economics and Business Administration, 1959
ROY, K. B.	Head, Agricultural Publications, 1943, 1948
B.J., Missouri.	
RUSH, KATHRYN S.	Food Director, Dining Hall Service, 1949, 1951
B.S., M.S., Auburn University.	
RUSSELL, MARGARET K.	Secretary, Agricultural Engineering, 1958
SANFORD, SHELTON P.	Assistant Director of Student Health, Infirmary, 1958
A.B., M.A., Georgia; M.D., Harvard.	
SCARBROUGH, JOAN C.	Secretary, Field Services, School of Education, 1958, 1959
SCRUGGS, MARJORIE T.	Stenographer, English, 1958, 1959
SELLERS, MARY F., R.N.	Nurse, Infirmary, 1944, 1959

* Temporary.

*SENN, MARY CLAIRE	Clerk, Alumni Office, 1957
SEWELL, ANNIE MARIE	Head Resident of Teague Hall, 1942
A.B., Huntingdon; M.S., Auburn University.	
SHERLING, DOROTHY N.	Senior Clerk, School of Science and Literature, 1951, 1959
B.S., Auburn University.	
SHRUM, SUE	Secretary, President's Office, 1958
SIBLEY, GRIGSBY THOMAS	Laboratory Mechanician, Electrical Engineering, 1943
SIBLEY, KATE MAXWELL	Senior Tabulating Machine Operator
Registrar's Office, 1950, 1959	
SIEFFERMAN, RICHARD L.	Producer-Director, Educational Television, 1959
B.S.C., Florida.	
*SILAVENT, EVIE	Head Resident of Gray House, 1958
SIMMONS, BETTY F.	Secretary, Architecture and The Arts, 1956, 1958
SIMMS, GRACE F., R.N.	Nurse, Infirmary, 1944, 1959
SIMONS, KENNETH W.	Accountant, Business Office, 1958
SIMS, BENNETT	Store Manager, College Supply Store, 1946
SIMS, JANET LOUISE COMPTON	Secretary, Registrar's Office, 1959
SIMS, JEAN	Clerk, Catalog Department, Library, 1959
SIMS, VIRGINIA V.	Assistant Cashier, Business Office, 1950
SKINNER, HOWARD ODELL	Producer-Director, Educational Television, 1959
B.S.C., Florida.	
SMITH, CHARLES E.	Research Asst., Auburn Research Foundation, 1959
B.E.E., Auburn University.	
SMITH, IVERSON T.	Assistant Carpenter Foreman, Buildings and Grounds, 1957
SMITH, LORETTA CURL	Tabulating Machine Operator, Registrar's Office, 1959
SMITH, VIRGINIA S.	Cashier, Housing, 1959
SMYTH, HENRY A.	Mechanical Inspector, Buildings and Grounds, 1959
SNOW, MELVIN L. SR.	Janitor Foreman, Buildings and Grounds, 1951, 1957
SPARKS, SYLVIA SUE	Tabulating Machine Operator, Registrar's Office, 1959
SPARROW, SYLVIA S.	Senior Clerk, Engineering Administration, 1946, 1956
B.S., Alabama College.	
STANFIELD, JAMES M.	Cameraman, Photographic and Duplicating Service, 1957
STARR, ELIZABETH D.	Clerk, Acquisitions Department, Library, 1956
STEPHENS, MARJORIE	Secretary to the Dean, School of Veterinary
Medicine, 1944, 1955	
STEWART, MYRTICE YVONNE	Library Asstistant, Reference Department,
Library, 1958, 1959	
STOVER, ANN	Head Resident of Dowdell Hall and College Chaperone, 1952, 1957
STOVALL, MILDRED	Typist, College Supply Store, 1959
STRICKLING, NADRA	Stenographer, Veterans Affairs, 1959
STRINGER, CAROLYN G.	Stenographer, Dairy Husbandry, 1958, 1959
B.S., Florence State College.	
**STRINGER, PENNY	Secretary, Elementary Education, 1958
STRONG, PEARL	Secretary, Business Office, 1949, 1959
SUDDATH, BOYCE E.	Senior Clerk, Office of the Dean, School of
Education, 1944, 1959	
SUGG, ETHEL J.	Head Resident of Gatchell Hall, 1957
SUGG, TOT	Housemother, Magnolia Hall, 1956
SUMNERS, DOROTHY	Laboratory Technician, Textile Technology, 1959
SWAZEY, MYRA, R.N.	Nurse, Infirmary, 1959
TAYLOR, MARY YARBROUGH	Typist, Buildings and Grounds, 1958
TAYLOR, WILKA B.	Senior Clerk, Buildings and Grounds, 1952
TEAL, MARTHA MERLE	Stenographer, Business Office, 1958, 1959
THOMAS, ANNE	Housemother, Magnolia Hall, 1948, 1953

* Temporary.

** On leave.

THOMPSON, RICHARD LAMAR	Assistant Manager, Auburn Union, 1959
THORNTON, CLAUDE L.	Shop Mechanician, Industrial Laboratories, 1952
THORNTON, MARTHA B.	Typist, Naval ROTC, 1959
THURSTON, MILTON C.	Supervisor, Supply Room and Laundry, Athletic Department, 1946, 1950
TIDMORE, SARA M. B.ofMus., Cox College.	Clerk "A", President's Office, 1942, 1959
TIPPINS, FRANCES E.	Administrative Assistant, Business Office, 1929, 1959
TIMBERLAKE, ELSIE	Senior Secretary, President's Office, 1958, 1959
TOLBERT, GLORIA A.B., Howard; M.S., Auburn University.	Counselor, Student Guidance Service, 1958
TRACHY, PATRICIA P.	Secretary, Education Interpretation Service, 1958
*TUCKER, DAVID A. B.A., Hanover College; M.A., Louisville.	Counselor, Student Guidance Service, 1956
TUCKER, INEZ J. B.S., Auburn University.	Dietitian, War Eagle Cafeteria, 1952, 1955
TURNIPSEED, LAMARGARET B.A., Huntingdon; M.S., Auburn University.	Head of Women's Housing, 1947, 1952
TYSON, SEABORN B. Sergeant First Class, United States Army.	Chief Clerk, Army ROTC, 1956
VALLERY, H. F. B.A., M.A., Louisiana State; M.A., Ed.D., Columbia.	Coordinator, Men's Housing; Supervisor, Student Guidance Service, 1950, 1951
VARNER, CAROL RUSS	Typist, Registrar's Office, 1959
VICKERS, EDITH (Resigned Effective October 21, 1959.)	Stenographer, Economics and Business Administration, 1959
WADE, JAMES DALLAS B.S., Auburn University.	Assistant to Dean, School of Engineering, 1941, 1946
WALDROP, RUTH C.	Assistant Purchasing Agent, Business Office, 1928, 1937
WALL, LLOYDENE B.A., Harding College; B.S., Southwest Missouri State College.	Secretary, Art, 1958
WALLER, MARIANNE	Secretary, Industrial Laboratories, 1958
WALTON, JOHN H.	Carpenter Foreman, Buildings and Grounds, 1947
WARE, ROBERT E. B.S., Auburn University.	Chief Engineer, Educational Television, 1959
WARREN, AILEEN	Secretary, Vocational Agriculture, 1959
WATERS, TOMMIE	Secretary, Student Affairs, 1959
WATSON, DORIS	Typist "A", Large Animal Surgery and Medicine, 1959
WATTS, MILDRED H. Registered Nurse, Jackson Memorial Hospital School of Nursing.	Lab. Technician "A", Pathology and Parasitology, 1956, 1959
WEAR, KENNETH W. B.S., Auburn University.	Dietitian, Magnolia Dining Hall, 1958
WEGENER, BETTE A. (Resigned Effective June 30, 1959.)	Part-time Secretary, Physics, 1959
WEGENER, EDWARD P. B.S., Minnesota.	Director, Educational Television, 1954
WEIDENBACH, W. H. B.S., Auburn University.	Assistant to Dean, School of Agriculture and to Director, Agricultural Experiment Station, 1925, 1942
WEILMUNSTER, PAULINE S.	Secretary to Dean Emeritus of Engineering and Director of Pre-Engineering, 1956, 1958
WESTENHAVER, JOSEPH	Engineering Aide, Educational Television, 1958, 1959
WHATLEY, MILDRED C.	Senior Payroll Clerk, Business Office, 1940, 1959
WHEELER, ELLEN K.	Stenographer, Economics and Business Administration, 1958, 1959
WHEELER, MAX Sergeant First Class, United States Army.	NCO in Charge of Military Hangar, 1958
WHITE, ANNIE KATHERINE	Housemother, Auburn Hall, 1955
WHITE, LOIS BAKER	Clerk "A", Registrar's Office, 1957, 1959
WHITMAN, J. C.	Assistant Campus Foreman, Buildings and Grounds, 1952, 1959

** On leave.

WHITMAN, J. M.	Plumbing and Heating Foreman, Buildings and Grounds, 1940, 1942
WILLIAMS, CLARENCE THOMAS	Clerk, College Security Office, 1957
WILLIAMS, L. B.	Assistant Director of Publicity, News Bureau, 1956
B.S., Troy State Teachers College; M.S., George Peabody College for Teachers.	
*WILLIAMS, TOBY	Secretary, Student Guidance Service, 1959
WILSON, ANN MEDLOCK	Secretary, Aeronautical Engineering, 1957, 1958
WILSON, CLARA M.	Clerk, Auburn School of Aviation, 1959
WILSON, JACK OLIN JR.	Campus Foreman, Buildings and Grounds, 1947, 1953
WINGATE, HENRY T.	Assistant to the Dean, School of Veterinary Medicine, 1927, 1959
B.S., Auburn University.	
WISE, JUNE	Clerk "A", President's Office, 1955, 1959
B.S., Auburn University.	
WOOD, JAMES M. SR.	Laboratory Mechanician, Aeronautical Engineering, 1958
WOODS, MARGARET, R.N.	Nurse, Infirmary, 1953, 1959
WOROZBYT, GERALDINE	Clerk, Physics, 1959
(Resigned Effective September 11, 1959.)	
WRIGHT, CARY DUNCAN	Property Custodian, Large Animal Surgery and Medicine, 1948, 1956
WRIGHT, GRACE M.	Typist "A", Dairy Husbandry, 1945, 1959
WRIGHT, LUÑEAL D.	Superintendent of Nurses, Infirmary, 1941, 1950
Registered Nurse.	
YOUNG, CAROLYN	Ticket Clerk, Auburn Athletic Department, 1952
B.S., Auburn University.	
ZARING, MARGARET K.	Head Resident of Keller Hall, 1958
B.S., Northwestern.	
ZELLERS, LUCILLE	Clerk, Infirmary, 1947, 1957
ZIEGLER, EVELYN A.	Senior Clerk, School of Science and Literature, 1956, 1959
ZIMMERMAN, LEILA JO	Typist, Business Office, 1958, 1959

Commencement Speakers

- JOHN TEMPLE GRAVES, Litt.B., D.C.L., LL.D., Author, editor, lecturer, Birmingham *Post-Herald*, Birmingham, Alabama. March 13, 1959.
- ROBERT C. ANDERSON, B.S., M.A., Ph.D., Director, Southern Regional Education Board, Atlanta, Georgia. June 3, 1959.
- ROBERT M. STROZIER, B.Phil., A.M., Ph.D., President, The Florida State University, Tallahassee, Florida. August 22, 1959.
- ANDREW DAVID HOLT, A.B., M.S., Ph.D., LL.D., President, The University of Tennessee, Knoxville, Tennessee. December 18, 1959.

* Temporary.

AGRICULTURAL EXPERIMENT STATION STAFF¹

RALPH BROWN DRAUGHON, LL.D., *President*
 DAVID W. MULLINS, Ed.D., *Executive Vice President*
 E. V. Smith, Ph.D., *Director*
 Coyt Wilson, Ph.D., *Associate Director*
 C. F. Simmons, Ph.D., *Assistant Director*
 W. H. Weidenbach, B.S., *Assistant to Director*

Agricultural Economics

Ben T. Lanham Jr., M.S.	Head, Agricultural Economics, 1939, 1956
J. H. Blackstone, M.S.	Agricultural Economist, 1939, 1954
M. J. Danner, M.S.	Agricultural Economist, 1943, 1957
T. H. Ellis, Ph.D.	Agricultural Economist (Coop. USDA), 1958
J. H. Yeager, Ph.D.	Agricultural Economist, 1946, 1957
E. D. Chastain Jr., Ph.D.	Assoc. Agricultural Economist, 1956
E. E. Kern Jr., M.S.	Assoc. Agricultural Economist, 1955
Morris White, Ph.D.	Assoc. Agricultural Economist, 1950
Harold L. Nix, M.Ed.	Asst. Rural Sociologist, 1959
A. C. Hudson, M.S.	Asst. Agricultural Economist, 1958
Earl J. Partenheimer, Ph.D.	Asst. Agricultural Economist, 1958
O. D. Belcher, B.S.	Asst. in Agricultural Economics, 1958
Thomas N. Eagar, B.S.	Asst. in Agricultural Economics, 1959
Ruth A. Hammett, M.S.	Asst. in Agricultural Economics, 1955
James R. Hurst, B.S.	Asst. in Agricultural Economics, 1959
Daniel A. Linton Jr., B.S.	Asst. in Agricultural Economics, 1959
Boyd B. Rose, B.S.	Asst. in Agricultural Economics, 1958

Agricultural Engineering

F. A. Kummer, M.S.	Head, Agricultural Engineering, 1935, 1948
Herman Bouwer, Ph.D.	Assoc. Agricultural Engineer, 1955
A. W. Cooper, Ph.D.	Director, National Tillage Machinery Laboratory (Coop. USDA), 1939, 1958
T. E. Corley, M.S.	Assoc. Agricultural Engineer, 1946, 1953
Walter Grub, M.S.	Assoc. Agricultural Engineer, 1954
E. S. Renoll, M.S.	Assoc. Agricultural Engineer, 1949, 1958
C. A. Rollo, M.S.	Assoc. Agricultural Engineer, 1947, 1956
C. M. Stokes, M.S.	Assoc. Agricultural Engineer, 1937, 1947
W. R. Gill, Ph.D.	Soil Scientist (Coop. USDA), 1955
W. F. McCreery, M.S., A.E.	Agricultural Engineer (Coop. USDA), 1950, 1952
C. A. Reaves, M.S.	Agricultural Engineer (Coop. USDA), 1951
I. F. Reed, M.S., A.E.	Agricultural Engineer (Coop. USDA), 1933, 1944
G. E. Vanden Berg, Ph.D.	Agricultural Engineer (Coop. USDA), 1958

Agricultural Library

C. H. Cantrell, M.A., A.B.L.S.	Director of Libraries, ² 1944
Farley Lee, M.A., A.B.L.S.	Agricultural Librarian, ² 1928, 1949

Agronomy and Soils

Howard T. Rogers, Ph.D.	Head, Agronomy and Soils, 1942, 1951
J. T. Cope Jr., Ph.D.	Agronomist, 1950, 1959
E. D. Donnelly, Ph.D.	Plant Breeder, 1951, 1959
L. E. Ensminger, Ph.D.	Soil Chemist, 1944, 1953
F. S. McCain, Ph.D.	Plant Breeder, 1946, 1959
Earl B. Minton, M.S.	Plant Physiologist (Coop. USDA), 1950, 1956
R. D. Rouse, Ph.D.	Soil Chemist, 1949, 1956
C. E. Scarsbrook, Ph.D.	Soil Chemist, 1953, 1959
A. L. Smith, Ph.D.	Pathologist (Coop. USDA), 1946
D. G. Sturkie, Ph.D.	Agronomist, 1925, 1942
J. I. Wear, Ph.D.	Soil Chemist, 1939, 1959

¹ As of November 1, 1959.

² Joint employees with Teaching Division of Auburn University.

Fred Adams, Ph.D.	Assoc. Soil Chemist, 1955
E. M. Evans, M.S.	Assoc. Agronomist, 1949, 1953
A. E. Hiltbold, Ph.D.	Assoc. Soil Microbiologist, 1955
Carl S. Hoveland, Ph.D.	Assoc. Agronomist, 1959
Wiley C. Johnson Jr., Ph.D.	Assoc. Plant Breeder, 1957
Aubrey C. Mixon, M.S.	Assoc. Agronomist (Coop. USDA), 1957
R. M. Patterson, M.S.	Assoc. Agronomist, 1949, 1956
Joe B. Dixon, Ph.D.	Asst. Soil Mineralogist, 1959
C. E. Evans, M.S.	Asst. Agronomist, 1955, 1957
C. C. King Jr., M.S.	Asst. Agronomist, 1952, 1954
V. S. Searcy, M.S.	Asst. Agronomist, 1948, 1950
G. T. Sharman Jr., B.S.	Asst. Agronomist (Thorsby), 1952, 1954
F. E. Bertram, B.S.	Field Superintendent (Prattville), 1935, 1948
Fred T. Glaze, B.S.	Field Superintendent (Alexandria), 1954
J. W. Langford, B.S.	Superintendent, Plant Breeding Unit (Tallassee), 1954
J. W. Richardson, B.S.	Field Superintendent (Brewton), 1937, 1948
William Ansley, B.S.	Asst. in Agronomy, 1957
Robert A. Burdett Jr., B.S.	Asst. in Agronomy, 1958
Louie J. Chapman, B.S.	Asst. in Agronomy, 1954
J. B. Henderson, B.S.	Asst. in Agronomy, 1957
H. Carlton Kirby, B.S.A.	Asst. in Agronomy, 1958, 1959
J. R. Watson, B.S.	Asst. in Agronomy, 1958

Animal Disease Research

J. E. Greene, D.V.M., M.S.	Head, Animal Disease Research, ³ 1937, 1958
Carl Clark, Ph.D.	Assoc. Head, Animal Disease Research, ³ 1953, 1959
William G. Dacres, Ph.D.	Bacteriologist, 1956
George K. Kiesel, D.V.M.	Animal Pathologist, 1952, 1955
Charles S. Roberts, D.V.M., M.S.	Animal Pathologist, ⁴ 1947, 1954

Animal Husbandry and Nutrition

W. M. Warren, Ph.D.	Head, Animal Husbandry and Nutrition, 1955, 1957
W. B. Anthony, Ph.D.	Animal Nutritionist, 1953, 1955
J. C. Grimes, M.S.	Animal Husbandman, 1920, 1950
P. M. Newberne, D.V.M., Ph.D.	Animal Pathologist, 1958
W. D. Salmon, D.Sc.	Animal Nutritionist, 1922, 1957
Troy B. Patterson, Ph.D.	Assoc. Animal Breeder, 1957
C. D. Squiers, Ph.D.	Assoc. Animal Breeder, 1950
H. F. Tucker, Ph.D.	Assoc. Animal Husbandman, 1949, 1958
E. L. Wiggins, Ph.D.	Assoc. Animal Breeder, 1956
H. D. Alexander, Ph.D.	Asst. Animal Nutritionist, 1950, 1955
P. T. Farish, Ph.D.	Asst. Animal Nutritionist, 1953, 1958
G. B. Meadows, M.S.	Asst. Animal Husbandman, 1951

Botany and Plant Pathology

J. A. Lyle, Ph.D.	Head, Botany and Plant Pathology, 1947, 1954
E. J. Cairns, Ph.D.	Nematologist, 1954
D. E. Davis, Ph.D.	Botanist, 1947, 1955
N. A. Minton, M.S.	Nematologist (Coop. USDA), 1951, 1955
E. A. Curl, Ph.D.	Assoc. Plant Pathologist, 1954, 1957
U. L. Diener, Ph.D.	Assoc. Plant Pathologist, 1952, 1957
Albert E. Drake, Ph.D.	Assoc. Biometrician, 1959
E. M. Clark, Ph.D.	Asst. Botanist, 1956
Norman D. Davis, Ph.D.	Asst. Botanist, 1958, 1959
J. D. Hansen, B.S.	Asst. in Botany, 1958
Samuel B. Jones Jr., B.S.	Asst. in Botany, 1959

Dairy Husbandry

K. M. Autrey, Ph.D.	Head, Dairy Husbandry, 1947
G. E. Hawkins Jr., Ph.D.	Dairy Husbandman, 1952, 1959

³ Joint employee with School of Veterinary Medicine.

⁴ Joint employee with State Department of Agriculture and Industries.

R. Y. Cannon, Ph.D.	Assoc. Dairy Husbandman, 1948, 1956
G. H. Rollins, M.S.	Assoc. Dairy Husbandman, 1948, 1955

Forestry

Wilbur B. DeVal, M.S.	Head, Forestry, 1946, 1951
G. I. Garin, Ph.D.	Forester, 1948, 1952
E. J. Hodgkins, Ph.D.	Forester, 1952, 1957
R. W. Becking, Ph.D.	Assoc. Forester, 1958
R. W. Goggans, M.F.	Assoc. Forester, 1947, 1952
*J. F. Johnson, Ph.D.	Assoc. Forester, 1950, 1957
*E. W. Posey, M.S.F.	Assoc. Forester, 1950, 1959
H. G. Whipple, M.F.	Assoc. Forester (Rt. 2, Fayette), 1958
S. D. Livingston, M.F.	Asst. Forester, 1948, 1949
K. W. Lyle Jr., M.F.	Asst. Forester, 1957
Reid L. Folsom, B.S.	Asst. in Forestry, 1959
Forrest E. Goodrick, B.S.F.	Asst. in Forestry, 1956
Peter C. Grieves, B.A.	Asst. in Forestry, 1959
*J. L. Teate, M.F.	Asst. in Forestry, 1958

Home Economics

Marion W. Spidle, M.A.	Head, Home Economics Research, ⁵ 1938, 1955
Kathryn Philson, Ph.D.	Home Economist, 1953, 1957
Nell S. Glasscock, Ph.D.	Assoc. Home Economist, ⁶ 1958
Mildred S. Van de Mark, M.A.	Assoc. Home Economist, ⁵ 1938, 1955
Elizabeth Davis, M.S.	Asst. in Home Economics, 1957, 1959
*Mary E. Prather, M.S.	Asst. in Home Economics, ⁶ 1952, 1955

Horticulture

L. M. Ware, M.S.	Head, Horticulture, 1923, 1931
W. H. Greenleaf, Ph.D.	Vegetable Breeder, 1947
C. L. Isbell, Ph.D.	Horticulturist, 1917, 1931
Harry J. Amling, Ph.D.	Assoc. Horticulturist, 1958
Tokuji Furuta, Ph.D.	Assoc. Ornamental Horticulturist, 1951
Hubert Harris, M.S.	Assoc. Horticulturist, 1936, 1948
Sam T. Jones, Ph.D.	Assoc. Horticulturist, 1950, 1954
Henry P. Orr, M.S.	Assoc. Ornamental Horticulturist, 1947, 1949
John Popenoe, Ph.D.	Assoc. Horticulturist, 1958
W. A. Johnson, M.S.	Asst. Horticulturist, 1937, 1950
Jack L. Turner, M.S.	Asst. Horticulturist, 1955, 1957
James McCoy Barber, B.S.	Asst. in Horticulture, 1956
W. C. Martin Jr., B.S.	Greenhouse Manager, 1951, 1958
Frederick B. Perry Jr., B.S.	Asst. in Horticulture, 1957

Poultry Husbandry

Claude H. Moore, Ph.D.	Head, Poultry Husbandry, 1956, 1959
G. J. Cottier, M.A., D.V.M.	Poultry Husbandman, 1930, 1949
S. A. Edgar, Ph.D.	Poultry Pathologist, 1947, 1950
Dale F. King, M.S.	Poultry Husbandman, 1930, 1959
J. G. Goodman, M.S.	Assoc. Poultry Husbandman, 1939, 1946
L. W. Johnson, Ph.D.	Assoc. Poultry Husbandman, 1948, 1955
E. C. Mora, M.S.	Asst. Poultry Pathologist, 1958
D. S. Bond, M.S.	Asst. in Poultry Husbandry, 1958

Publications

K. B. Roy, B.J.	Head, Publications, 1943, 1948
L. O. Brackeen, B.S.	Director of Publicity, ⁶ 1934, 1948
E. L. McGraw, M.S.	Assoc. Agricultural Editor, 1941, 1957
R. E. Stevenson, B.S.	Asst. Agricultural Editor, 1955

* Temporary appointment.

** On Leave.

⁵ Joint employee with School of Home Economics.

⁶ Joint employee with Extension Service and Teaching Division, Auburn University.

Research Data Analysis

B. F. Alvord, M.S.	Statistician, 1929, 1957
W. H. Hearn, B.S.	Statistical Assistant, 1950, 1959

Zoology-Entomology

F. S. Arant, Ph.D.	Head, Zoology-Entomology, 1926, 1949
M. F. Baker, Ph.D.	Leader, Wildlife Research Unit (Coop. USDI), 1958
*J. S. Dendy, Ph.D.	Zoologist, 1947, 1957
W. G. Eden, Ph.D.	Entomologist, 1948, 1953
H. S. Swingle, M.S.	Fish Culturist, 1929, 1939
B. Wayne Arthur, Ph.D.	Assoc. Entomologist, 1951, 1959
G. H. Blake Jr., Ph.D.	Assoc. Entomologist, 1947, 1956
J. M. Lawrence, Ph.D.	Assoc. Fish Culturist, 1941, 1956
E. E. Prather, M.S.	Assoc. Fish Culturist, 1941, 1950
Ray Allison, M.S.	Asst. Zoologist, 1950, 1958
Kirby Lee Hays, Ph.D.	Asst. Entomologist, 1957
Lacy L. Hyche, M.S.	Asst. Entomologist, 1952, 1955
James W. Rawson, Ph.D.	Asst. Entomologist, 1957
E. Wayne Shell, Ph.D.	Asst. Fish Culturist, 1952, 1959
Dan W. Speake, M.S.	Asst. Leader, Wildlife Research Unit (Coop. USDI), 1955
*R. D. Blackburn, B.S.	Asst. in Fish Culture, 1958
Sidney B. Hays, B.S.	Asst. in Entomology, 1956, 1959

SUBSTATIONS**Black Belt—Marion Junction, Dallas County**

L. A. Smith, B.S.	Superintendent, 1951, 1957
Harold W. Grimes Jr., B.S.	Asst. Superintendent, 1955, 1957

Chilton Area Horticulture—Clanton, Chilton County

C. C. Carlton, B.S.	Superintendent, 1948
---------------------	----------------------

Gulf Coast—Fairhope, Baldwin County

Harold F. Yates, B.S.	Superintendent, 1931, 1959
J. E. Barrett Jr., B.S.	Asst. Superintendent, 1948

Lower Coastal Plain—Camden, Wilcox County

V. L. Brown, B.S.	Superintendent, 1949
John B. Sanders, B.S.	Asst. Superintendent, 1956
W. J. Watson, B.S.	Asst. Superintendent, 1958

North Alabama Horticulture—Cullman, Cullman County

T. S. Morrow, B.S.	Superintendent, 1948
M. H. Hollingsworth, B.S.	Asst. Superintendent, 1958

Piedmont—Camp Hill, Tallapoosa County

E. L. Mayton, M.S.	Superintendent, 1929, 1945
J. J. Lott, B.S.	Asst. Superintendent, 1958

Sand Mountain—Crossville, DeKalb County

S. E. Gissendanner, B.S.	Superintendent, 1941, 1946
Howard C. Lester, B.S.	Asst. Superintendent, 1958

Tennessee Valley—Belle Mina, Limestone County

J. K. Boseck, B.S.	Superintendent, 1937, 1954
William B. Webster, B.S.	Asst. Superintendent, 1958

Upper Coastal Plain—Winfield, Fayette County

W. W. Cotney, B.S.	Superintendent, 1944
Robert A. Moore Jr., B.S.	Asst. Superintendent, 1959

Wiregrass—Headland, Henry County

C. A. Brogden, B.S.	Superintendent, 1937, 1950
Max C. Sconyers, B.S.	Asst. Superintendent, 1950
J. G. Starling, B.S.	Asst. Superintendent, 1948

Ornamental Horticulture Field Station—Spring Hill, Mobile County

R. L. Self, Ph.D.	Plant Pathologist, 1942, 1952
-------------------	-------------------------------

* Temporary appointment.

** On leave.

GRADUATE ASSISTANTS

Javad Bazargani, B.S.	Agronomy and Soils, 1958
Ullman E. Brady Jr., B.S.	Zoology-Entomology, 1959
James R. Buttram, M.S.	Zoology-Entomology, 1959
M. E. Dakin Jr., B.S.	Zoology-Entomology, 1958
Wilhelmus J. G. Gardenier, B.S.	Agricultural Engineering, 1959
Tellis D. Hudson, B.S.	Poultry Husbandry, 1958
Albert S. Johnson II, B.S.F.	Zoology-Entomology, 1959
James D. Land, B.S.	Zoology-Entomology, 1959
Joseph V. Maddox, B.S.	Zoology-Entomology, 1959
George Matschke, B.S.	Zoology-Entomology, 1959
William Wadd Miller III, M.S.	Animal Husbandry and Nutrition, 1958
Joseph Edward Milton, B.S.	Poultry Husbandry, 1956
Loyd T. Patterson, B.S.	Agronomy and Soils, 1959
Don William Stubbs, M.S.	Zoology-Entomology, 1956, 1959
James H. Taylor, B.S.	Agricultural Engineering, 1959
James A. Timmerman Jr., M.S.	Zoology-Entomology, 1959
Gene D. Wills, B.S.	Botany and Plant Pathology, 1959

OTHER STAFF

W. P. Adkins	Shop Foreman, Agricultural Engineering, 1947
Barbara B. Agee	Secretary, Administration, 1958
Nita Jean Bailey, A.B.	Technician, Animal Husbandry and Nutrition, 1956
Kateri M. Baker	Secretary, Agricultural Economics, 1959
Zetta Iris Batchelor	Lab. Technician "A", Animal Disease Research, 1959
Kay R. Beaty	Lab. Technician "A", Botany and Plant Pathology, 1958, 1959
A. L. Black	Ponds Foreman, Zoology-Entomology, 1948, 1955
Jane L. Boulter	Lab. Technician "A", Animal Husbandry, 1959
Donna Bryant	Typist, Agronomy and Soils, 1959
Peggy Ann Carothers	Secretary, Administration, 1958
Pauline Chapman	Laboratory Technician, Zoology-Entomology, 1959
Vista Anne Clark	Secretary, Animal Husbandry and Nutrition, 1957
Margaret W. Clingan	Laboratory Technician, Forestry, 1959
Dovard R. Collum	Field Plot Aide, Agronomy and Soils, 1957, 1959
Tye G. Collum	Laboratory Assistant, Horticulture, 1945, 1957
Linda G. Cook	Typist, Agricultural Engineering, 1959
John P. Cunningham, B.S.	Assistant Foreman, Dairy Husbandry, 1958
Joyce S. Cutchen	Stenographer, Animal Husbandry and Nutrition, 1958, 1959
Mildred Daniel	Typist, Home Economics, 1959
Joan Davis	Laboratory Technician "A", Dairy Husbandry, 1959
Irma P. Davison	Stenographer, Zoology-Entomology, 1959
Mary Doler	Laboratory Technician "A", Home Economics, 1959
Janice J. Ellis	Laboratory Technician "A", Agronomy and Soils, 1957, 1959
Mattie Norman Ellis	Senior Secretary, Administration, 1935, 1959
S. E. Fincher	Farm Foreman, Poultry Husbandry, 1959
Ann L. Frazier	Statistical Clerk, Agronomy and Soils, 1959
Nelda Freeman	Typist, Agricultural Economics, 1959
Doris E. Gardner	Secretary, Poultry Husbandry, 1949
Martha Watts Gaylor	Stenographer, Zoology-Entomology (Wildlife), 1957, 1959
Patricia D. Harmon	Stenographer, Horticulture, 1959
Charlene Hawkins	Typist, Agronomy and Soils, 1959
Jelaine D. Hillman	Stenographer, Agronomy and Soils, 1959
Joy Holdaway	Laboratory Technician, Animal Husbandry and Nutrition, 1959
Eleanor Horne	Senior Clerk, Agronomy and Soils, 1922, 1959
Billie S. Hudmon	Statistical Clerk, Horticulture, 1957, 1959
John E. James, B.S.	Herdsmen, Animal Husbandry, 1959
Leslie J. Jones	Farm Foreman, Agronomy and Soils, 1959
Mayo Lancaster	Asst. Foreman, Dairy Husbandry, 1956, 1957
H. M. Lane	Farm Foreman, Horticulture, 1921, 1946
Eunice Langley	Secretary, Horticulture, 1934, 1942
Jeannette G. Lawson	Steno., Zoology-Entomology (Farm Ponds), 1958, 1959
Mary Jane Lester	Secretary, Agricultural Publications, 1957, 1959
Joe A. Little	Senior Laboratory Technician, Dairy Husbandry, 1959

Ruth Little	Laboratory Technician, Zoology-Entomology, 1959
E. E. Mansfield	Chief Clerk, Agricultural Economics, 1939, 1959
M. C. Mathison	Farm Foreman, Dairy Husbandry, 1942, 1957
Elizabeth T. McLain	Secretary, Agronomy and Soils, 1959
Gail McLeod	Laboratory Technician, Botany, 1959
Lola C. McMillan	Clerk "A", Agricultural Library, 1953, 1959
Sunny M. Murdock	Stenographer, Zoology-Entomology, 1959
Jane S. Nolen, B.S.	Lab. Technician "A", Zoology-Entomology, 1958, 1959
Barbara H. Paramore	Typist "A", Administration, 1959
Carol J. Parker	Laboratory Technician "A", Animal Husbandry, 1959
Carolyn A. Parsons, B.A.	Lab. Technician "A", Animal Husbandry, 1958, 1959
Mary Merle Peacock	Laboratory Technician, Forestry, 1959
Louise Price	Secretary, Agricultural Economics, 1940, 1943
Billy Rose Quinn, R.N.	Lab. Technician "A", Animal Husbandry, 1956, 1959
Frances B. Rawson	Stenographer, Animal Husbandry and Nutrition, 1956, 1959
Regina A. Rhoades	Laboratory Technician "A", Dairy Husbandry, 1954, 1959
Nancy Mason Rice	Lab. Technician "A", Botany and Plant Pathology, 1959
Helen Judith Richardson	Stenographer, Forestry, 1959
Blanche A. Rose	Typist, Zoology-Entomology, 1957, 1959
Elizabeth C. Russell	Laboratory Technician "A", Animal Husbandry, 1959
Margaret K. Russell	Secretary, Agricultural Engineering, 1958
Janice Sanders	Laboratory Technician, Botany and Plant Pathology, 1959
Clara T. Seibold, B.S.	Senior Lab. Technician, Poultry Husbandry, 1957, 1959
Christeen M. Shivers	Laboratory Technician, Animal Disease Research, 1959
Alva L. Sowell	Statistical Clerk, Agricultural Economics, 1957
Bashaba Sowell	Typist, Botany and Plant Pathology, 1959
Melba Stone	Statistical Clerk, Agricultural Economics, 1951
Carolyn G. Stringer, B.S.	Stenographer, Dairy Husbandry, 1958, 1959
Sally S. Telford	Typist, Agricultural Economics, 1958, 1959
Sara A. Thomas	Lab. Technician, Animal Husbandry and Nutrition, 1959
Helen Thomason	Statistical Clerk, Agricultural Economics, 1951
Joy J. Tolbert	Typist "A", Forestry, 1958, 1959
Faith Traylor	Laboratory Technician, Botany and Plant Pathology, 1959
James C. Waller	Greenhouse Attendant, Agronomy and Soils, 1959
Margaret M. Waller	Typist "A", Poultry Husbandry, 1958, 1959
L. L. Walston	Technician, Ornamental Horticulture Field Station, Mobile, 1957
Peggy Y. Wilhelm	Clerk "A", Research Data Analysis, 1957, 1959
Nancy Kemp Williams	Technician, Animal Husbandry and Nutrition, 1958
Bertha Wood	Stenographer, Agronomy and Soils, 1959
Iva Hill Yates	Clerk, Poultry Husbandry, 1958, 1959

AGRICULTURAL EXTENSION SERVICE STAFF

RALPH BROWN DRAUGHON, B.S., M.S., LL.D.
President

E. T. York, Jr., B.S., M.S., Auburn University; Ph.D., Cornell, Director, 1959
 Fred R. Robertson, Jr., B.S., M.S., Tennessee; DPA, Harvard, Asst. Director, 1959
 H. E. Williams, A.B., Birmingham-Southern, Asst. to the Dir., 1945, 1948
 Mrs. Mary E. Coleman, B.S., Auburn University, M.S., Columbia
 State Home Demonstration Agent, 1936, 1958
 L. O. Brackeen, B.S., Auburn University, Director of Public Information

SUPERVISORS

W. H. Taylor, B.S., Auburn University; M.S., Cornell District Agent, 1946, 1958
 R. M. Reaves, B.S., Auburn University District Agent, 1927, 1951
 H. M. Warren, B.S., Auburn University; M.S., Cornell District Agent, 1945, 1958
 T. W. Lumpkin, B.S., Auburn University District Agent, 1934, 1941
 Mary Hulsey, B.S., Auburn University; M.S., Columbia
 Dist. Home Dem. Agent, 1941, 1958
 Eunice Ivey, B.S., Alabama College; M.S., Alabama
 Dist. Home Dem. Agent, 1949, 1957
 Mrs. Patty Parkman, B.S., Alabama College
 Dist. Home Dem. Agent, 1947, 1952
 Lucile Mallette, B.S., Auburn University; M.S., Minnesota
 Dist. Home Dem. Agent, 1936, 1941

SPECIALISTS

O. N. Andrews, B.S., M.S., Auburn University Extension Agronomist, 1942, 1955
 R. G. Arnold, B.S., M.S., Auburn University Specialist in
 Community Development, 1914, 1957
 John Bagby, B.S., VPI Specialist in Commercial Horticulture, 1944, 1949
 Ann Barr, B.S., Alabama College Girls 4-H Club Leader, 1945, 1950
 Lyle Brown, B.S., Auburn University Specialist in Visual Aids, 1930, 1949
 Elizabeth Bryan, B.S., Auburn University; M.S., Tennessee
 Extension Economist, Home Management, 1939, 1957
 W. H. Burgess, B.S., Auburn University Asst. Agricultural Editor, 1953, 1957
 H. R. Byrd, B.S., Auburn University Asst. Agricultural Editor, 1949, 1954
 A. R. Cavender, B.S., M.S., Tennessee Specialist in Marketing Hogs, 1958
 W. K. Cheney, B.A.A., Auburn University Asst. Specialist in Visual Aids, 1958
 R. R. Chesnutt, B.S., Auburn University Agricultural Editor, 1941, 1948
 W. T. Cox, B.S., Auburn University Specialist in Farm Buildings, 1950, 1951
 S. L. Davis, B.S., Auburn University Specialist in Poultry Marketing, 1942, 1958
 S. R. Doughty, B.S., Iowa State College Specialist in Land Use, 1923, 1956
 Isabelle Downey, B.S., Auburn University Specialist in Food
 Preservation, 1944, 1958
 Lawrence Ennis, B.S., Auburn University Spec. in Soil Engineering, 1945, 1949
 R. C. Farquhar, B.S., M.S., Auburn University Spec. in Beef
 Cattle and Sheep Mktg., 1949, 1959
 J. T. Gaillard, B.S., Auburn University Spec. in Farm Mechanization, 1944, 1949
 W. H. Grimes, B.S., M.S., Auburn University Survey Entomologist, 1957
 Foy Helms, B.S., Auburn University Agricultural Economist, 1943, 1949
 James R. Hubbard, B.S., Auburn University Extension Poultryman, 1939, 1958
 J. E. Jernigan, B.S., Auburn University Specialist in Cotton, 1944, 1955
 A. B. Jetton, B.S., Alabama Asst. Agricultural Editor, 1956
 A. W. Jones, B.S., Auburn University Specialist in Marketing, 1934, 1947
 R. R. Jones, B.S., Auburn University; M.S., Michigan State
 Specialist in Extension Training and Development, 1936, 1957
 R. S. Jones, B.S., Auburn University Dairyman, 1941, 1959
 Troy Keeble, B.S., Auburn University Spec. in Ornamental Horticulture, 1958
 E. F. Kennamer, B.S., M.S., Auburn University Spec. in Fish and
 Wildlife Mktg., 1940, 1948
 J. L. Lawson, B.S., Auburn University Spec. in Rural Development, 1924, 1959
 H. E. Logue, B.S., M.S., Auburn University State 4-H Club Leader, 1942, 1948
 J. C. Lowery, B.S., Auburn University Extension Agronomist, 1923, 1934

Elta Majors, B.S., Auburn University; M.S., Tennessee	Specialist in Child Care and Family Life, 1934, 1940
I. R. Martin, B.S., LSU	Extension Forester, 1941, 1948
M. M. Moorer, B.S., Auburn University	Specialist in Seed Marketing, 1957
Dorothy Overbey, B.S., Tennessee	Specialist in Consumer Education, 1943, 1949
J. R. Parrish, B.S., M.S., Auburn University	Extension Dairyman, 1938, 1948
Alice Peavy, B.S., Alabama; M.A., Columbia	Extension Economist, Home Furnishing, 1941, 1947
G. B. Phillips, B.S., Auburn University	Spec. in Animal Industry, 1927, 1947
Fariss Prickett, B.S., Auburn University	Spec. in Foods and Nutrition, 1955, 1958
Jeanne Priester, B.S., Alabama College; M.S., Auburn University	Spec. in Food Preservation, 1958, 1959
W. A. Ruffin, B.S., Auburn University; M.S., Iowa State College	Entomologist, 1924, 1936
J. H. Sellers, B.S., Auburn University	Spec. in Beef Cattle and Sheep Mktg., 1939, 1959
W. R. Sharman, B.S., M.S., Auburn University	Asst. Agricultural Editor, 1958, 1959
G. G. Stewart, B.S., Nebraska	Specialist in Visual Aids, 1939, 1949
Kathleen Thompson, B.S., Alabama	Specialist in Clothing and Handicraft, 1944, 1952
W. R. Williams, B.S., Auburn University	Spec. in Farm Studies, 1946, 1956

OTHER STAFF

Mrs. Vivian Arnold	Editorial Asst., 1959
Mrs. Catherine Brady	Stenographer, 1954, 1959
Mrs. Carolyn Brakefield	Stenographer, 1959
Mrs. Joyce Brittain	Stenographer, 1958, 1959
Mrs. Mignon Burgess	Secretary, 1943, 1950
Mrs. Nona Cawthorne, B.S., Auburn University	Editorial Asst., 1958, 1959
Mrs. Waynette W. Culwell	Typist, 1959
Mrs. Mary Jo Davidson	Clerk "A", 1943, 1959
Mrs. OrraJean Dorough	Stenographer, 1956, 1959
Mrs. Geraldine Fick	Secretary, 1943
Mrs. Charlotte Garrison	Stenographer, 1959
Mrs. Mildred S. Golden	Stenographer, 1959
Mrs. Myrtle Good	Recorder of Reports, 1929, 1947
Mrs. Patricia Gray	Stenographer, 1957, 1959
Mrs. Nancy Guilford	Secretary, 1953
Mrs. Carol A. Hamilton	Clerk "A", 1959
Mrs. Elizabeth Hill	Statistical Clerk, 1959
Betty Joy Hudson	Editorial Asst., 1959
Lucile Ingram	Clerk "A", 1945, 1959
Mrs. Gloria Irby	Audio Visual Tech., 1957, 1959
Mrs. Ann S. James	Stenographer, 1959
Mrs. Jeannette Jernigan	Stenographer, 1957, 1959
Dalene Jeter	Administrative Secretary, 1928, 1947
Rennie B. Jeter	Business Assistant, 1934, 1947
Mrs. Sarah Jones	Typist, 1957, 1959
Mrs. Judy S. Key	Stenographer, 1959
Mrs. Marion Lamar	Stenographer, 1950, 1959
Mrs. Frances E. Landrum	Stenographer, 1959
Mrs. Faye P. Lee	Typist "A", 1959
Mrs. Joy S. Macon	Stenographer, 1959
Myrtle Jane Miller	Stenographer, 1959
Mrs. Helen C. Mock	Stenographer, 1959
Mrs. Gertrude Paine	Photo Technician, 1957, 1959
Mrs. Anne B. Patterson	Editorial Asst., 1959
Mrs. Marlene Pittman	Stenographer, 1956, 1959
Mrs. Etta W. Ray	Mimeo. Operator, 1955, 1959
Mrs. Evelyn S. Robinson	Stenographer, 1956, 1959
Nora Rothrock, A.B., Loulie Compton Seminary	Secretary, 1923

Mrs. Mary Ann Schatz	Stenographer, 1959
Mrs. Shirley Scheer	Stenographer, 1958, 1959
Mrs. Doris Slaughter	Clerk "A", 1958, 1959
Mrs. Elaine Storey	Stenographer, 1958, 1959
Mrs. Martha Tatom	Secretary, 1956
Mrs. Ruthie Jean Taylor	Stenographer, 1959
Mrs. Elizabeth Wanninger	Stenographer, 1957, 1959

COUNTY WORKERS

(List for each county as follows: County address, county agent, assistant county agent; home demonstration agent, assistant home demonstration agent, first appointment, present appointment. All degrees are from Auburn University unless otherwise indicated.)

AUTAUGA Prattville	R. H. Kirkpatrick, B.S., 1944, 1953; H. S. Morrow, B.S., 1948. Margaret Campbell, B.S., Alabama College, M.S., Tennessee, 1950, 1956; Mary Anne Bailey, B.S., Alabama, 1958.
BALDWIN Bay Minette	F. C. Turner, B.S., 1938, 1944; W. H. Johnson, B.S., 1934, 1936; J. T. Boulter, B.S., 1956; J. A. Marable, B.S., 1955. Mrs. Mary C. Silvey, B.S., 1955, 1957; Mrs. Eugenia Weekley, B.S., 1937, 1958; Mrs. Marvell Gwaltney, B.S., Alabama, 1959.
BARBOUR Clayton	J. W. Walton, B.S., 1946, 1953; J. A. Hayles, B.S., M.S., 1953. Mrs. Frances Watson, A.B., Huntingdon, 1934, 1937; Mary J. Clearman, B.S., 1959.
BIBB Centreville	J. C. Odom, B.S., 1935, 1946; T. W. Camp, B.S., 1951, 1952. Kirtis Martin, B.S., 1933, 1937.
BLOUNT Oneonta	D. S. Loyd, B.S., 1942, 1954; J. B. Butler, B.S., 1954; L. C. McCall, B.S., 1955. Mildred Gilbert, B.S., 1944, 1949; Mrs. Virginia B. Fuller, B.S., 1948, 1953; Mary L. Walker, B.S., Peabody, 1954, 1957.
BULLOCK Union Springs	W. E. Stone, B.S., 1947, 1955; A. J. Brown, B.S., 1948. Carolyn Henderson, B.S., 1941, 1947.
BUTLER Greenville	C. P. Granade, B.S., 1935, 1938; F. H. Morgan, B.S., 1946; R. C. Thompson, B.S., 1954; J. P. Moore, B.S., 1953, 1957. Laurine Howell, B.S., Alabama, 1949, 1959; Mrs. Carolyn Lacy, B.S., 1955, 1957.
CALHOUN Anniston	A. S. Mathews, B.S., 1941, 1942; T. L. Bass, B.S., 1946; Goode Nelson, A.B., Alabama, 1945, 1948; L. G. Pair, B.S., 1948, 1957. Mrs. Yancey Walters, B.S., Alabama College, 1948, 1950; Amelia Frost, B.S., 1958; Mrs. Elizabeth Stewart, B.S., 1945, 1959.
CHAMBERS LaFayette	E. L. Stewart, B.S., M.S., 1944, 1946; R. C. Horn, B.S., 1944; C. F. Bentley, B.S., 1956. Exa Till, B.S., 1946, 1948; Jean P. West, B.S., Alabama, 1955.
CHEROKEE Centre	J. J. Young, B.S., 1933, 1944; R. J. Ballew, B.S., 1954; T. C. Owen, B.S., 1945, 1955. Geneva Marshall, B.S., 1941, 1943; Mrs. Virginia Garmon, B.S., Alabama College, 1945, 1958.
CHILTON Clanton	M. R. Glasscock, B.S., 1941, 1944; D. R. Mims, B.S., 1953; J. D. Sellers, B.S., 1949; W. R. Futral, B.S., 1959. Mrs. Johnnie Lane, A.B., Judson, 1952, 1954; Faye Davis, B.S., Jacksonville, 1959.
CHOCTAW Butler	Mathew Sexton, B.S., 1937, 1947; R. B. Deavours, B.S., 1946, 1948. Mrs. Grace Prince, B.S., 1951, 1956; Julianne Thompson, B.S., 1957.

- CLARKE**
Grove Hill O. C. Helms, B.S., 1930, 1933; Howard Blair, B.S., 1942, 1945.
Lucile Burson, B.S., M.S., 1936.
- CLAY**
Ashland W. H. Cowan, B.S., 1936, 1941; W. E. Wilson, B.S., 1954.
Dora Smith, B.S., Alabama College, 1952, 1953; Rochelle
Williams, B.A., Mississippi, 1958.
- CLEBURNE**
Heffin T. A. Ventress, B.S., 1937, 1948; E. C. Farrington, B.S., 1941.
Annie Rae Milner, B.S., Alabama College, 1941, 1942; Sarah
Ponder, B.S., Alabama College, 1956.
- COFFEE**
Enterprise J. R. Speed, B.S., 1943, 1945; M. B. Tidwell, B.S., 1957; T. C.
Casaday, B.S., 1949, 1955.
Mrs. Sarah Hutchinson, B.S., Howard College, 1956; Mrs. Tommie
Wakefield, B.S., 1958.
- COLBERT**
Tuscumbia D. G. Somerville, B.S., 1939, 1942; B. T. Richardson, B.S., 1945;
F. D. Robinson, B.S., 1949, 1953.
Mrs Catherine Austin, B.S., Athens College, 1944, 1955; Mrs.
Norma Sanlin, B.S., Alabama, 1959.
- CONECUH**
Evergreen M. H. Huggins, B.S., 1936, 1948; K. J. Copeland, B.S., 1957,
1959; H. J. Oakley, B.S., 1954.
Emelyn Reddoch, B.S., 1945, 1946; Addie R. Powers, B.S., Ala-
bama, 1959.
- COOSA**
Rockford C. H. Webb, B.S., 1957, 1958; W. F. Williams, B.S., 1956.
Claire Bishop, B.S., 1953, 1954.
- COVINGTON**
Andalusia W. J. Kinard, B.S., 1954; R. C. Reynolds, B.S., 1954; W. T.
Carnes, B.S., 1959; C. W. Pike, B.S., 1952, 1953.
Alma Holladay, B.S., 1941, 1956; Olivia Weems, B.S., 1953, 1954;
Nan E. Shelley, B.S., 1959.
- CRENSHAW**
Luverne O. W. Reeder, B.S., 1941, 1948; G. B. Handley, B.S., 1948.
Ida Jo Harrison, B.S., Alabama College, 1956, 1958; Donna
White, B.S., Alabama, 1958.
- CULLMAN**
Cullman H. G. Pinkston, B.S., 1937, 1945; Everett Chandler, B.S., 1954;
C. F. Thomas, B.S., M.S., 1958; O. Y. Smith, B.S., M.S., 1955.
Mrs. Mary Sue Tillery, B.S., 1947, 1948; Mrs. Inez Ballew, B.S.,
1954; Mrs. Jo Ann Lowry, B.S., 1955.
- DALE**
Ozark W. D. Thomason, B.S., 1931; T. G. Hubbard, B.S., 1936; K. A.
Tew, B.S., 1957.
Ruth Sundberg, B.S., M.S., Tennessee, 1941, 1951; Mrs. Ann N.
Knowles, B.S., Georgia State College for Women, 1959.
- DALLAS**
Selma L. C. Alsobrook, B.S., 1942, 1949; W. M. Arrington, B.S., 1950,
1953; J. C. French, B.S., 1959.
Dorothy Hixson, B.S., Alabama College, M.S., Columbia, 1937,
1940; Mrs. O'Neal Massey, B.S., 1953, 1957.
- DeKALB**
Ft. Payne J. W. Pate, B.S., 1923, 1929; D. C. Poe, B.S., 1956, 1957; Carl
Parker, B.S., 1944.
Douglas Williams, B.S., 1940, 1947; Sarah Anderson, B.S., Jack-
sonville State, 1959.
- ELMORE**
Wetumpka J. E. Morriss, B.S., M.S., 1935; W. E. Davis, B.S., 1959; V. L.
Keeble, B.S., 1942; F. H. Lovvorn, B.S., 1957.
Betty Hamilton, B.S., Alabama, 1947, 1953; Hattie Wilson, B.S.,
Alabama College, 1947, 1954; June Platt, B.S., Alabama, 1957.
- ESCAMBIA**
Brewton F. A. Rew, B.S., Mississippi A&M, 1922, 1946; C. B. Vickery,
B.S., 1948.
Catherine Buck, B.S., 1957, 1959.

- ETOWAH**
Gadsden T. L. Sanderson, B.S., 1943, 1949; H. J. Jackson, B.S., Georgia, 1944; A. D. Jones, B.S., 1948.
Mrs. Sara L. Thomas, B.S., 1947, 1948; Mrs. Celeste H. Martin, B.S., 1957, 1958.
- FAYETTE**
Fayette Albert Pitts, B.S., 1952, 1958; C. C. Baskin, B.S., 1957; John Elliott, B.S., 1953, 1956.
Annie Mary Hester, B.S., Berry College, M.S., Alabama, 1953, 1956; Mrs. Jean McCracken, B.S., Alabama, 1957.
- FRANKLIN**
Russellville H. A. Ponder, B.S., 1935, 1949; H. W. Warren, B.S., 1945, 1951; H. B. Thornhill, B.S., 1941, 1955.
Joyce McNutt, B.S., 1954, 1957.
- GENEVA**
Geneva M. M. Woodham, B.S., M.S., 1933; B. R. McManus, B.S., 1959.
Mrs. Carrie Threaton, B.S., Alabama College, 1929, 1935; Mrs. Zorah Messer, B.S., 1958.
- GREENE**
Eutaw W. H. Johnson, B.S., 1935, 1942; A. M. Mathews, B.S., 1947, 1954.
Mary Forney Hughes, B.S., Alabama, 1949, 1950.
- HALE**
Greensboro J. B. Deavours, B.S., 1937, 1946; J. N. Glass, B.S., 1948, 1950; E. M. Knowles, B.S., 1953, 1957.
Mrs. Goldie Kerr, B.S., Alabama, 1951; Marie Peinhardt, B.S., 1959.
- HENRY**
Abbeville R. C. Hartzog, B.S., 1946, 1955; Carl Dennis, B.S., 1954; C. L. Barefield, B.S., 1951, 1955.
Lillian Cox, B.S., Mississippi State College for Women, 1933, 1935; Wilma J. Cross, B.S., 1959.
- HOUSTON**
Dothan G. D. H. McMillan, B.S., 1942, 1956; R. J. Ledbetter, B.S., 1954; J. N. White, B.S., 1936, 1948; M. D. Bond, B.S., 1955.
Julia Smith, B.S., 1955, 1956; Sue Elmore, B.S., Alabama College, M.S., Tennessee, 1953, 1958; Mrs. Cherry Gary, B.S., 1949, 1959.
- JACKSON**
Scottsboro J. E. Carter, B.S., 1928, 1947; E. C. Halla, B.S., 1953; S. L. Worley, B.S., 1943, 1947.
Mrs. Clyde Peck, B.S., 1942, 1946; Kathren Thompson, B.S., Florence State Teachers College, 1959.
- JEFFERSON**
Birmingham C. H. Johns, B.S., 1937, 1948; C. W. Burns, B.S., 1957; D. R. Kelley, M.S., 1957, 1959; B. O. McDonald, B.S., 1959.
Irby Barrett, B.S., 1933, 1938; Barbara Fite, B.S., Alabama College, 1956; Mrs. Mary Maddux, B.S., 1957.
- LAMAR**
Vernon H. H. Lumpkin, B.S., 1950, 1954; C. T. Guthrie, Jr., B.S., 1958.
Vervil L. Mitchell, B.S., 1949, 1951; Barbara Clements, B.S., Alabama, 1953; Amelia Frost, B.S., Alabama College, 1958.
- LAUDERDALE**
Florence L. T. Wagnon, B.S., 1935, 1957; S. M. Eich, B.S., 1957; A. C. Heaslett, B.S., 1957; H. H. Marks, B.S., 1954, 1957.
Sara F. Conner, B.S., Alabama College, 1949, 1958; Mrs. Marilyn Moore, B.S., Tennessee, M.S., Alabama, 1958; Willie Mae Crockett, B.S., Florence State Teachers College, 1957, 1959.
- LAWRENCE**
Moulton S. P. McClendon, B.S., 1943, 1946; H. B. Price, B.S., 1945; J. H. Pitts, B.S., 1955.
Mrs. Ruby Looney, B.S., Athens College, 1953, 1956; Betty L. Woodruff, B.S., Alabama, 1958.
- LEE**
Opelika R. W. Teague, B.S., 1948, 1958; R. R. Granger, B.S., 1955; C. L. Maddox, B.S., 1954; P. O. Johnson, B.A., 1959.
Mrs. Elizabeth Crum, B.S., 1955, 1957; Mrs. Barbara McMillan, B.S., LSU, 1958.

- LIMESTONE**
Athens F. K. Agee, B.S., 1945, 1947; C. R. Morrow, B.S., 1946; J. A. Thompson, B.S., 1957.
Mrs. Emma Jo Lindsey, B.S., 1948, 1954; Helen J. Collier, B.S., Jacksonville State, 1958, 1959.
- LOWNDES**
Hayneville J. W. Mathews, B.S., 1933; T. J. Gerald, B.S., 1946.
Mary Jane Shelley, B.S., 1957, 1958.
- MACON**
Tuskegee J. M. Bolling, B.S., 1939, 1946; W. C. Forehand, B.S., 1954.
Eunice Prater, B.S., Alabama College, 1953, 1956.
- MADISON**
Huntsville R. O. Magnusson, B.S., 1948, 1955; H. L. Hood, 1936, 1957;
F. M. Patterson, B.S., 1954; C. H. Segrest, B.S., 1956.
Mrs. Oneone Cook, B.S., 1943, 1947; Mrs. Marie Vann, B.S., Alabama College, 1947, 1958.
- MARENGO**
Linden F. M. Jones, B.S., 1935, 1938; W. M. Mayberry, B.S., 1948;
Cecil Miller, B.S., 1954.
Mrs. Marjorie Weaver, B.S., 1943, 1955; Juanita Hendrix, B.S., Alabama College, 1959.
- MARION**
Hamilton J. F. Yarbrough, B.S., 1918, 1945; M. T. Whisenant, B.S., 1949,
1950; I. D. Thornton, B.S., 1944.
Elna Tanner, B.S., 1950, 1952; Janice McCant, B.S., Alabama,
1959.
- MARSHALL**
Guntersville W. L. Martin, B.S., 1942, 1944; R. L. Sherer, B.S., 1955; R. I. D.
Murphy, B.S., 1958; John L. Parrott, B.S., 1959.
Christine Huber, B.S., Peabody, 1944, 1950; Mrs. Opal Collins,
B.S., Alabama College, 1951, 1954; Deloris Haynes, B.S., Jack-
sonville State College, 1958.
- MOBILE**
Mobile C. J. Brockway, B.S., 1922, 1934; W. L. Deakle, 1943, 1944;
J. P. Givhan, B.S., 1935, 1946; M. C. Mayfield, B.S., 1955.
Mona Whatley, B.S., Peabody, 1941, 1945; Mrs. Mildred Payne,
B.S., 1941, 1954; Mrs. Frances Radney, B.S., 1955.
- MONROE**
Monroeville A. V. Culpepper, B.S., 1928; R. J. Martin, B.S., 1946.
Annie Richardson, A.B., Judson College, 1952.
- MONTGOMERY**
Montgomery T. P. McCabe, B.S., 1939, 1958; W. R. Helms, B.S., 1951, 1958;
W. H. Kendrick, B.S., 1958.
Mrs. Maude Woodfin, A. B., Huntingdon, 1933, 1950; Mrs. Vir-
ginia Gilchrist, B.S., Alabama, 1955.
- MORGAN**
Hartselle C. D. Rutledge, B.S., 1948, 1957; H. W. Houston, B.S., 1954,
1957; G. L. Casaday, B.S., 1955; J. R. Stephenson, B.S., 1959.
Lucile Hawkins, B.S., Alabama College, 1948, 1950; Norma J.
Wells, B.S., 1959.
- PERRY**
Marion W. O. Hairston, B.S., 1946, 1954; J. A. Bates, B.S., 1950.
Evelyn Graham, B.S., Alabama, 1950, 1954; Mrs. Joyce Richar-
dson, B.S., Judson College, 1958.
- PICKENS**
Carrollton C. G. Davis, B.S., 1948, 1954; G. T. Balch, B.S., 1957; R. E.
Thornton, B.S., 1954.
Mrs. Helen Hill, B.S., Alabama College, 1941, 1949; Mrs. Lor-
raine Meeks, B.S., Alabama, 1957.
- PIKE**
Troy H. J. Carter, B.S., 1935, 1936; G. S. Sessions, B.S., 1955, 1959;
G. M. Wakefield, B.S., M.S., 1957
Margaret Brown, B.S., Alabama, 1943, 1944; Mrs. Florence Owens,
B.S., FSU, 1958; Carolyn Tew, B.S., 1959.
- RANDOLPH**
Wedowee C. A. Moore, B.S., 1955, 1958; J. H. Rhodes, B.S., 1954.
Billie Cotney, B.S., Alabama College, 1947, 1949; Corene Hag-
gard, B.S., Alabama College, 1957.

- RUSSELL**
Phenix City C. A. Woods, B.S., 1947, 1955; J. A. McLean, B.S., M.S., 1954, 1955.
Marie Lambert, B.S., 1952.
- ST. CLAIR**
Pell City H. L. Eubanks, B.S., 1934, 1946; W. D. Jackson, B.S., 1946;
J. E. Yates, B.S., 1955.
Aileen Puckett, B.S., Alabama, 1957; Lena K. Hodges, B.S.,
Jacksonville State, 1959.
- SHELBY**
Columbiana A. A. Lauderdale, B.S., 1924; W. M. Clark, B.S., 1937, 1947;
J. E. Jones, B.S., 1958.
Marion Cotney, B.S., 1939; Ann Gardner, B.S., Alabama, 1957.
- SUMTER**
Livingston W. B. Story, 1930, 1932; B. D. Williamson, B.S., 1946; F. W.
Kilgore, B.S., 1954.
Mrs. Mildred Ennis, B.S., Tennessee, 1958; Mrs. Louise Ostrom,
B.S., M.S., 1957.
- TALLADEGA**
Talladega O. V. Hill, B.S., 1935, 1936; A. A. Hester, B.S., 1944; J. B.
Mathews, B.S., 1949, 1951; L. P. Owen, B.S., 1954; R. H. Lee,
B.S., 1958.
Mary Baughn, B.S., Alabama College, 1951, 1957; Patricia Nunn,
B.S., 1957; Kay Bryant, B.S., Alabama College, 1956, 1958.
- TALLAPOOSA**
Dadeville F. N. Farrington, B.S., 1930, 1932; R. R. Clark, B.S., 1948;
V. C. Bice, B.S., 1958; R. W. Thompson, B.S., M.S., 1958.
Mrs. Margaret W. Miller, B.S., 1949, 1958; Mrs. Sylvia Little,
B.S., 1958.
- TUSCALOOSA**
Tuscaloosa B. R. Holstun, B.S., 1934, 1938; James Cooper, B.S., 1948;
French Sconyers, B.S., 1943, 1947; J. N. Williams, B.S., 1950,
1954.
Mrs. Christine Risher, B.S., Mississippi State College for Women,
1955, 1959; Mrs. Mary Durden, B.S., 1958; Eleanor Wilson, B.S.,
Mississippi State College for Women, M.S., Alabama, 1958.
- WALKER**
Jasper J. C. Bullington, B.S., 1939, 1944; W. D. Jones, B.S., 1954; W. J.
Thompson, B.S., M.S., 1954, 1955.
Mrs. Jeanette Argo, B.S., Alabama College, 1949, 1959; Mary A.
Strickland, B.S., Alabama, 1959; Opal Bridges, B.S., Alabama,
1958.
- WASHINGTON**
Chatom H. W. Moss, B.S., 1937, 1948; D. O. Estes, B.S., 1949, 1952.
Vivian Waters, B.S., M.S., Columbia, 1959; Mrs. Roma J. Weeks,
B.S., Mississippi Southern, 1959.
- WILCOX**
Camden F. M. Barnett, B.S., 1943, 1944; W. J. Hardy, B.S., 1954.
Margaret Whatley, B.S., 1941, 1944; Nancy Whigham, B.S., 1956.
- WINSTON**
Double Springs W. L. Richardson, B.S., 1935, 1945; J. E. Fields, B.S., 1949.
Madge Pennington, B.S., 1941, 1942.

STATE REGULATORY SERVICE

CHEMISTRY

SAUNDERS, CHARLES RICHARD, B.S., M.S., Ph.D.	State Chemist, 1924, 1950
BIDEZ, PAUL RUBENS	Principal Chemist, 1920, 1940
BIDEZ, ALICE BEASLEY	Secretary, 1934
CARTER, GERALD E.	Agricultural Chemist, 1958
CHEN, FRED A., B.A.	Agricultural Chemist, 1958
HARRIS, ROBERT RUSHIN, A.B.	Agricultural Chemist, 1954
RICHBERG, REX WESLEY, B.S.	Senior Agricultural Chemist, 1950
RILEY, WILLIAM LEONARD, B.S.	Agricultural Chemist, 1944

STATE VETERINARY DIAGNOSTIC LABORATORY

(Conducted in cooperation with the Alabama State Department of Agriculture and Industries and the United States Department of Agriculture, Agricultural Research Service)

GREENE, JAMES E., D.V.M., M.S.	Dean, School of Veterinary Medicine, 1937, 1958
MILLIGAN, JOHN G., B.S., D.V.M.	State Veterinarian, 1951
*ROBERTS, CHAS. S., D.V.M., M.S.	In Charge of State Diagnostic Laboratory, 1947, 1958
HUNTER, KATHRYN	Laboratory Assistant I, State Diagnostic Laboratory, 1959
PHILLIPS, MARTHA	Laboratory Assistant II, State Diagnostic Laboratory, 1959
PIERCE, CHERRY, B.S.	Bacteriologist, State Diagnostic Laboratory, 1957
RICKTER, MRS. HENRY, B.S.	Laboratory Assistant, State Diagnostic Laboratory, 1958
TEER, PATRICIA, D.V.M.	Veterinarian, State Diagnostic Laboratory, 1959
WALTON, GERALDINE	Clerk, State Diagnostic Laboratory, 1958
WORTHY, MARY	Laboratory Assistant II, State Diagnostic Laboratory, 1959
EMRICK, V. R.	U.S. Dept. of Agriculture, Agricultural Research Service, In Charge of Bang's Disease Laboratory, 1949
BRADFORD, R. H.	U.S. Dept. of Agriculture, Agricultural Research Service, Biological Aide, 1955
WILLIAMSON, O. B.	U.S. Dept. of Agriculture, Agricultural Research Service, Biological Aide, 1955
WILLIAMSON, RUTH	U.S. Dept. of Agriculture, Agricultural Research Service, Biological Aide, 1957
CROFT, D. G., D.V.M.	In Charge of State Branch Veterinary Diagnostic Laboratory, Albertville, Alabama, 1953
TOLBERT, VONBORO SUE	Secretary, State Branch Veterinary Diagnostic Laboratory, Albertville, Alabama, 1955

* Jointly employed by Alabama Department of Agriculture and Industries and Experiment Station, Auburn University.

General Information

Historical Statement

The East Alabama Male College was located at Auburn by act of the Alabama Legislature February 1, 1856. The college was formally opened October 1, 1859, and shortly thereafter sponsorship was assumed by the Methodist Episcopal Church, South. In 1862 the War Between-the-States interrupted a prosperous period of growth, but the institution was reopened in 1866.

On June 2, 1862, the Congress of the United States passed the Land-Grant (or Morrill) Act which donated lands to the several states:

"for the endowment, support, and maintenance, of at least one college, where the leading object will be without excluding other sciences and classical studies, and including military tactics, to teach such branches of learning as are related to Agriculture and Mechanic Arts . . . in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

On December 31, 1868, Alabama accepted this act of Congress and appointed a commission to sell the land scrip received from the United States and invest the proceeds. After some delay this was accomplished, and the investment so made became the original endowment of the institution. The State Legislature, by an act approved February 26, 1872, accepted an offer of the Alabama Conference of the Methodist Episcopal Church, South, to donate to the State the college building, land, equipment, and good will of the East Alabama Male College and located the Alabama Agricultural and Mechanical College at Auburn.

By another act of the Alabama Legislature — approved January 27, 1899 — the name of the college was changed to The Alabama Polytechnic Institute. Justification of this change was stated in the act:

"The college has developed as originally designed into an institution where are taught not only the branches that relate to Agriculture and the Mechanic Arts but also the sciences and arts in general that relate to the industrial development of modern civilization."

Thus Alabama recognized many years ago the importance of the institution's services to industry, to agriculture, and to education.

Pursuant to an act of the Alabama Legislature, effective January 1, 1960, The Alabama Polytechnic Institute was renamed and designated as Auburn University. The Board of Trustees confirmed this action by resolution October 30, 1959.

Location

Auburn University is located at Auburn in Lee County. Auburn, a city of approximately 14,000 population, is located on the Western Railway of Alabama 59 miles east of Montgomery and 116 miles west of Atlanta, Georgia. It is on U.S. Highway 29, known as the Jefferson Davis Highway, and Alabama Highways Nos. 14 and 147.

Auburn is located at the southern border of the Piedmont area where it joins the Coastal Plains area. The elevation is 732 feet. The climate is delightful and healthful, the temperature being moderate throughout the year.

Government

Under the organic and statutory laws of Alabama, Auburn University is governed by a Board of Trustees consisting of one member from each congressional district, an extra member from the congressional district in which the institution is located, and the Governor and the State Superintendent of Education, who are ex-officio members. The Governor is chairman. Members of the Board of Trustees are appointed by the Governor by and with the advice and consent of the State Senate and hold office for terms of twelve years each. Members of the board receive no compensation.

The Board of Trustees places administrative authority and responsibility in the hands of an administrative officer at Auburn. The institution is grouped for administrative purposes into divisions, schools, and departments.

Sources of Revenue

Auburn University derives its support from the State and Federal Governments and from other sources. Funds are as follows:

1. Direct annual appropriations made by the State for support, maintenance, and development of public education, including campus instruction, agricultural research, agricultural extension, engineering research, and educational television.
2. Special appropriation made by the State for buildings, purchase of lands, and improvements.
3. Funds derived from the original endowment of the institution under the Federal Land-Grant Act and earnings from other subsequently acquired endowment funds.
4. Income derived from the payment by students of fees and other charges. All tuition at Auburn University is free, except to non-residents of Alabama, but certain fees are assessed to cover specific services.
5. The Morrill fund appropriated by the United States Government for the instruction of students in the sciences relating to agriculture and the mechanic arts and in the English language, literature, and for the training of teachers in agriculture and the mechanic arts.
6. Funds received from the State of Alabama through the Smith-Hughes Act derived from the congressional appropriation and paid to Auburn University for its work in the training of teachers of agriculture and home economics.
7. Such revolving funds as may be incident to the operation of any department where it is advisable to sell or dispose of products produced in the course of conducting the Experiment Station or any department of the institution.
8. Gifts, grants and donations received from alumni, private individuals and organizations both for general and restricted educational purposes, including scholarships.
9. Direct annual appropriations made by the United States Government for research purposes, and devoted to investigation of scientific agricultural problems of the farmers of the State. These funds are also for research purposes in connection with investigation of new experiments bearing directly on the production, manufacture, preparation, use, distribution, and marketing of agricultural products, and research work

regarding Home Economics, and for the purpose of publishing these results.

10. Direct appropriations made by the United States Government for the Agricultural Extension Service in support of County Agricultural and County Home Demonstration Agents, for the support of boys' and girls' 4-H club work, and for other types of extension work in agriculture and home economics in the several counties of Alabama.
11. Each county in the State makes certain appropriations to supplement those from the United States Government and the State of Alabama for the support of the Agricultural Extension Service.
12. Funds received from industry, governmental agencies and private individuals for special contractual research projects which are handled through the Auburn Research Foundation, Inc., and the Agricultural Experiment Station.

The Campus

Major buildings and numerous smaller structures on the campus and their usage are as follows:

Agricultural Engineering Building and Annex, includes offices, classrooms, laboratories, and farm machinery storage for the department of Agricultural Engineering.

Airport Administration Building, of modern fireproof construction located on the college-owned airport, containing classrooms and briefing rooms for flight instruction, airport administrative offices, and public service facilities.

Alumni Gymnasium, houses Department of Women's Physical Education and facilities for Intramural Sports.

Alumni Hall, a women's dormitory with dining hall facilities accommodating 98 students.

Animal Disease Research Laboratory, provides facilities for the isolation of animals with infectious diseases used in animal disease research.

Animal Husbandry Building, in which are located classrooms and laboratories for teachers and research workers in animal husbandry, dairy husbandry, animal nutrition, and horticulture.

Auburn Hall, a dormitory located on East Thach Avenue, accommodates 186 men students.

Auburn Union Building, located on Thach and Ross Square, is the focal point for out-of-class activities. The building houses Student Body offices, a ballroom, meeting rooms, the Alumni Association, the Faculty Club, the College Supply Store, Cafeteria and Snack Bar, banquet rooms, recreation rooms and hobby shops.

Biggin Hall, named for the late Dean Frederic Child Biggin, provides offices, drawing rooms and classrooms for the School of Architecture and the Arts.

Broun Hall, named for the late President William LeRoy Broun, used for classrooms and other work in mathematics, Air Force ROTC, Naval ROTC, and other subjects.

Buildings and Grounds Building, houses offices, shops and warehouses for the Department of Buildings and Grounds and a central heating plant for the main campus.

Burke Dairy Laboratory, named for the late Professor Arthur D. Burke, housing milk processing plant and laboratory for dairy manufacturing.

Cary Hall, named for the late Dean Charles Allen Cary, a modernly equipped structure housing offices, classrooms, laboratories, and the large animal clinic of the School of Veterinary Medicine.

Cliff Hare Stadium, named for the late Dean Clifford LeRoy Hare, serves as home playing field for the football team and track team. There are 28,000 permanent seats and 2,080 semi-permanent seats, together with the most modern press box in the Southeastern Conference.

Comer Hall, named for the late Governor B. B. Comer, in which are located the offices of the Dean of the School of Agriculture and Director of the Experiment Stations, research workers and members of the faculty of the School of Agriculture, and class rooms.

Drake Infirmary, named for the late Doctor John Hodges Drake, with hospital beds for 65 patients, serves the entire student body as a general health center.

Duncan Hall, named for the late President Luther Noble Duncan, is the headquarters for the Extension Service of Auburn University. The director, supervisors, and specialists have offices here.

Dunstan Hall, named for the late Arthur St. Charles Dunstan, provides offices, laboratories and classrooms for the Departments of Industrial Management, Electrical Engineering, Economics, and Languages.

Extension Hall, an office building used by the Extension Service.

Educational Television Studios, origination point for Auburn programs to the Alabama Educational Television Network. This building houses studios and offices for the Television Staff.

Electrical Laboratory, houses the AC Laboratory and Electrical Engineering Laboratories.

Field House, serves as dressing quarters for all sports teams and includes offices for coaches and athletic administrative officers.

Fisheries Research Laboratory, offices and laboratories for personnel in fisheries and farm pond research of the Department of Zoology-Entomology.

Food Service Building, a central warehouse for storage of all food supplies for the college's five dining halls. It includes Food Director's offices, sample display room, and large cold storage rooms for fresh fruits, vegetables and meats.

Forest Hills Apartments, consisting of nineteen new brick buildings containing 240 apartments for married students.

Forestry Building, a modern, well-equipped structure housing offices, classrooms, and laboratories for Forestry instruction and Research.

Graves Centre Cottages (30), provides housing for athletic students with dining hall facilities for athletes.

Home Management Houses and Nursery Schools, for students in Home Economics.

"L" Building, a two story building which accommodates the offices of the Department of Industrial Laboratories, classrooms, Men's Physical Education Department, Civil Engineering Labs, Photographic and Duplicating Service, Agriculture Education Shop, and Aeronautical Engineering Laboratories.

Langdon Hall, an auditorium with Student Guidance Service on the ground floor, and Dramatic Arts shop attached.

Library, the college library with 240,000 volumes. In addition there are thousands of Government publications.

Men's Dormitory Group, consisting of Magnolia Hall, Bullard Hall, Noble Hall, three new modern fireproof, four-story structures, with cafeteria facilities, housing 1,109 men students.

Miller Hall, named for the late Doctor Emerson R. Miller, provides offices, laboratories and classrooms for the School of Pharmacy.

Music Building, houses the Music Department.

Physiology Building and Gross Anatomy Laboratory, offices, classrooms and laboratories used by the Anatomy and Physiology Departments.

Poultry Farm, a group of buildings used for instruction and research in poultry husbandry and housing offices of the Poultry Husbandry Department.

President's Home, used as a residence by the President.

Ramsay Hall, named for the late Erskine Ramsay, the chief donor of the building, in which are located the offices of the Dean of Engineering, Director of Engineering Experiment Station, classrooms, and engineering laboratories.

Ross Chemical Laboratory, named for the late Doctor B. B. Ross, in which are located the offices of the Dean of the School of Chemistry, classrooms and laboratories for instruction in chemistry, and the State Chemistry laboratory.

ROTC Building, houses the offices and supply rooms for the Army ROTC and Air ROTC.

ROTC Hangar, a structure 320 feet long by 145 feet wide, housing the Military and Naval Science Departments.

Samford Hall, named for the late Governor William J. Samford, in which are located the offices of the President, the Executive Vice-President, Dean of Faculties, the Business Manager, the Registrar, the Director of Student Affairs, Dean of the Graduate School, the departments of English, History, Publicity and many classrooms. It is known as the Administration Building.

Serum Plant Building, provides space for State Diagnostic Laboratory and Bangs Disease Laboratory.

Shops, a group of three buildings used as classrooms and laboratories for students in Industrial Engineering and Manual Arts.

Small Animal Clinic, houses classrooms, laboratories and offices for the Department of Small Animal Surgery and Medicine.

Susan Smith Cottage and Lodge, co-op housing for 26 women students.

Smith Hall, home economics laboratories and offices of the Dean of the School of Home Economics.

Soil Conservation Service Building, an office building used by the Soil Conservation Service.

Sports Arena, a building used for varsity basketball, intramural basketball, and other gymnastic activities.

Student Activities Building, used as an assembly hall for concerts, lectures, dances, physical education classes, and other special events scheduled on the campus.

Temporary Buildings, constructed through the FPHA, include 6 classroom buildings with classrooms, offices for the director of non-academic personnel, and 132 apartment units for married students and faculty.

Textile Building, houses offices of the Auburn Research Foundation and the director of Pre-Engineering as well as offices and laboratories of the Department of Textile Technology.

Thach Hall, provides offices, laboratories and classrooms for the School of Education and related field services.

Tichenor Hall, named after the late Reverend Isaac Taylor Tichenor, houses the School of Science and Literature, contains offices, classrooms, and laboratories.

Wildlife Research Building, office and laboratory space for the Alabama Cooperative Wildlife Research Unit.

Wilmore Engineering Laboratory, named after the late Dean John Jenkins Wilmore, houses offices, laboratories, and classrooms for the School of Engineering and the Department of Chemical Engineering.

Women's Dormitory Group — consisting of Elizabeth Taylor Harper Hall, Willie Gertrude Little Hall, Kate Conway Broun Hall, Allie Glenn Hall, Letitia Dowdell Hall, Annie White Mell Hall, Mary Lane Hall, Ella V. Lupton Hall, Margaret Kate Teague Hall, Dana King Gatchell Hall, Marie Bankhead Owen Hall, Helen Keller Hall, twelve modern dormitories, a dining hall and a social center, providing housing for 1,052 women students. The Dean of Women's Offices are located in the Social Center.

Y-Hut, used by the Dramatics Arts Department.

The Agricultural Experiment Station System of Auburn University owns 15,558 acres of land at the ten substations, five experiment fields, five forestry units, plant breeding unit, ornamental horticulture field station, and the main station at Auburn. Acreages and locations of the above mentioned units are as follows:

Main Station	Auburn	Lee	3,463
Substations:			
Black Belt	Marion Junction	Dallas	1,116
Chilton Area Horticulture	Clanton	Chilton	145
Gulf Coast	Fairhope	Baldwin	800
Lower Coastal Plains	Camden	Wilcox	2,539
North Alabama Horticulture	Cullman	Cullman	160
Piedmont	Camp Hill	Tallapoosa	1,405
Sand Mountain	Crossville	DeKalb	536
Tennessee Valley	Belle Mina	Limestone	755
Upper Coastal Plains	Winfield	Marion and Fayette	735
Wiregrass	Headland	Henry	523
Experiment Fields:			
Alexandria	Alexandria	Calhoun	90
Brewton	Brewton	Escambia	85
Monroeville	Monroeville	Monroe	80
Prattville	Prattville	Autauga	80
Tuskegee	Tuskegee	Macon	230
Plant Breeding Unit	Tallassee	Elmore	670
Ornamental Horticulture			
Field Station	Spring Hill	Mobile	6
Foundation Seed Stocks Farm	Thorsby	Chilton	180

In addition to the above, there are 1,960 acres at the Forestry Units in Autauga, Barbour, Coosa, and Fayette Counties.

Women Students

Women were first admitted to Auburn University by the Board of Trustees in 1892. All regular university courses are open to both men and women. Courses of particular interest to women are Elementary and Secondary Education, Home Economics, Physical Education, Laboratory Technology, Secretarial Science, Architecture, Interior Design, Applied Art, General Art, Music, and Dramatic Art.

ADMISSIONS

General Requirements.—Applicants may be admitted when general requirements herein stated have been satisfied and when on the basis of complete official transcripts the applicant has been officially notified of his acceptance. Auburn University in the interest of good instruction reserves the right to reject any and all applicants whose admission would result in the overcrowding of instructional and housing facilities.

Applicants for admission will be considered in terms of their academic preparation, mental capacity, and aptitude for the course of study desired; morality; health; and psychological fitness for the environment, traditions and customs of this institution. In submitting admission credentials, give requested information fully and accurately. False or misleading statements can result in denial of admission or cancellation of registration.

Complete admission credentials must be filed with the Registrar at least three weeks prior to the opening of the quarter in which admission is desired. Because of the large number of applications, credentials should be filed at the earliest possible time.

Registration of new upperclassmen and orientation of freshmen will be held for each quarter as indicated in the University Calendar on pages 2 and 3. Detailed instructions will be mailed to applicants for admission. A service charge of \$5.00 will be made for registration after the official registration dates as indicated in the University Calendar.

Applicants for admission to the freshman class should request the high school principal to furnish credits directly to the Registrar. Admission blanks may be obtained from the Registrar. Applicants for admission with advanced standing must forward directly to the Registrar official transcripts of credit from each institution attended. Applicants are admitted to the first year class in Architecture, Interior Design, and Veterinary Medicine at the beginning of the Fall Quarter only. Applicants may be admitted to other curricula in any quarter.

Special Tests for New Students.—Freshmen are required to take placement tests as a basis for assignment to regular or remedial sections in English and mathematics on the basis of test scores. Transfer students are required to take a college aptitude test. A student absent from any test without official permission will be assessed \$1.00.

Applicants graduating from Alabama high schools are requested to participate in the American College Testing Program administered for Alabama colleges at designated centers throughout the State. High school seniors will be notified as to testing dates and be furnished application forms by their high school principals. The program consists of tests in the areas of English, Mathematics, the Social Studies, and the Natural Sciences. Scores will be used as a basis for counseling toward admission and the student may be advised to

clear specific entrance requirements or to take remedial work prior to admission.

Admission to Freshman Class. — The requirement for admission shall be graduation from an approved secondary school with a minimum of fifteen units (or twelve such units from a three-year senior school) or the equivalent of this requirement as shown by examination.

Non-graduates may be admitted to full freshman standing if scores made on the USAFI General Educational Development tests, a standard college aptitude test, and/or such special achievement tests or subject examinations as may be recommended by the Committee on Admissions, indicate education attainment equivalent to graduation from a four-year high school. Students entering from non-accredited schools may be accepted if they make satisfactory scores on the tests required of freshmen at registration.

Special Requirements for Admission to Curricula. — One unit of mathematics is required for admission to all curricula. Plane Geometry is required in all except the following curricula: Agricultural Education, Art (except Industrial Design), Business Administration, Dramatic Arts, Education (unless majors or minors in Science or Mathematics), Home Economics, Laboratory Technology, and Secretarial Training. Solid Geometry is required in all curricula of the Schools of Engineering (except Textile Management) and Architecture and the Arts (except Art and Dramatic Arts) and in Agricultural Engineering, Chemical Engineering, Chemistry, and Fisheries Management. Students admitted with entrance deficiencies must clear them within one year either by examination or in non-credit courses offered by the university. The equivalent in college preparatory courses in basic mathematics will be acceptable in lieu of specific credit in formal courses in algebra, plane geometry, and/or solid geometry. Students will not be admitted to Mathematics 112 until Plane Geometry is completed. (See also under School of Engineering.)

Admission to Advanced Standing. — Advanced standing is granted to students transferring from standard colleges. To qualify for admission, the transfer student must be eligible to return to his former institution and must have met the standards set forth in the "Continuation in Residence" regulations carried on page 74; however, such regulations will not be applied in determining the eligibility of graduates of accredited institutions seeking admission. Applications for advanced standing should be submitted to the Registrar and must be accompanied by official transcripts covering both the high school and college records and statement of honorable dismissal. The amount of credit allowed will be determined by the dean and the Registrar. Credit for "D" grades will be allowed as approved by the dean. Students transferring from colleges not satisfactorily accredited will be granted provisional admission or may be required to stand examinations in all subjects for which credit is desired. See Residence Requirements on page 78.

Admission to Graduate Standing. — Graduation with a Bachelor's degree or its equivalent from an accredited college or university is requisite for admission to the Graduate School. The undergraduate preparation of every applicant for admission must also satisfy the requirements of a Screening Committee of the school or department in which he desires to major. For further information see section on The Graduate School and write for special catalog.

Admission of Special Students.—Persons at least 20 years of age who cannot fulfill the regular admission requirements for freshman standing but otherwise have acquired adequate preparation for university courses may be admitted as special students on approval of the dean concerned. To become a candidate for a degree, a special student must meet entrance requirements.

Educational Benefits for Veterans

Many current publications describe in complete detail the educational programs authorized by Congress under the several laws listed below: Public Law 346 (G.I. Bill of Rights), Public Law 16 (Vocational Rehabilitation), Public Law 550 (Readjustment Assistance Act of 1952), Public Law 894 (Vocational Rehabilitation Revised), Public Law 634 (War Orphans Educational Assistance Act).

Auburn University is fully approved by the Veterans Administration to give training under these laws. Veterans planning to attend school under one of these laws should make application directly to the Veterans Administration and get prior approval before entering school.

Those entering school under the benefits of any one of the laws should have sufficient funds to finance themselves for one quarter or at least until payments begin coming in from the Veterans Administration (approximately two months).

For further information write to the Coordinator of Veterans Affairs, Auburn University, Auburn, Alabama.

Non-Resident Students

Because of limited facilities and in the interest of good instruction, admissions are restricted, except in the case of children of alumni, to residents of Alabama and neighboring states. In addition to meeting general qualifications for admission, out-of-state freshman applicants must in high school have maintained a "C" average and have ranked in the upper half of their graduating class, or must qualify on the basis of college entrance tests.

In assessing fees students are classified as resident and non-resident students. In addition to fees charged to Alabama students, non-resident students are required to pay a tuition fee of \$90.00 per quarter. This fee is remitted to sons and daughters of ministers. No tuition is charged to Alabama residents.

A resident student, if under 21 years of age, is one whose parents (or guardian) have been residents of Alabama for at least six consecutive months next preceding his original enrollment, or whose parents were residents of Alabama at the time of their death, and who has not acquired residence in another state. In all cases of guardianship, the period of guardianship must have been not less than six months at the time of original enrollment.

A resident student, if over 21 years of age, is one whose parents are, or were at the time of their death, residents of Alabama, and who has not acquired residence in another state; or who, as an adult, has been a resident of Alabama for at least six consecutive months next preceding his original enrollment; or who is the wife of a man who has been a resident of Alabama for at least six consecutive months next preceding her original enrollment, or an alien who has taken out first citizenship papers and has been a resident of Alabama for at least six consecutive months next preceding his original enrollment.

All students not able to qualify as resident students are classified as non-resident students. If there is any possible question of his right to legal residence the applicant should bring the matter to the attention of the Registrar before registering. The burden of proof as to residence is upon the student. Any student who registers improperly under these regulations will be required to pay not only the non-resident fee but also a penalty fee of \$10.00. A student who does not clear this obligation within 30 days after official notice will have his registration cancelled.

Title 17, Article 2, Section 15 of the 1940 Code of Alabama, provides that residence may not be acquired by attendance at an institution of higher learning. No person who is once registered as a non-resident student shall be considered to have gained legal residence in Alabama by virtue of having attended college in this State. Persons whose legal residence follows that of parents or guardians shall be considered to have gained or lost legal residence in this State while in college according to changes of legal residence of parents or guardians, but legal residence shall not be considered to have been gained until six months after such persons have become legal residents of this State.

ACADEMIC REGULATIONS

Late Enrollment. — After the date specified in the University Calendar no student may register except by permission of his dean. The load of a student who registers late shall be reduced at the discretion of his dean.

Change in Program of Studies. — A student is required to have approval of his dean before changing his program of studies. A fee of \$1.00 will be charged for each change in schedule and \$5.00 for change in curriculum after classwork begins, except those made necessary by failure at the final examination period, or as a result of special examinations, or in special cases approved by the Registrar.

A grade of failure will be recorded in the Registrar's Office for a subject dropped on request of the student after the second week of a quarter. Exceptions are made only as authorized by the dean.

A student's dean may make such substitutions as he deems necessary in the student's course of study. The student's load may also be reduced by the dean when circumstances seem to make it advisable.

Back Work. — In arranging a student's work for each year the dean will require him to schedule first the back work of the lower class or classes, but where this would work a serious hardship on the student the dean may make such exceptions as he deems necessary.

Classification. — A student will be promoted from one class to the next when he lacks not more than 10 hours of work (courses and hours) specified in his curriculum.

A student who has been awarded one baccalaureate degree and pursues another course for a second baccalaureate degree will be classified as an under-graduate student.

Students who for reasons acceptable to the dean do not wish to pursue regular courses either as to load or curriculum, will be admitted as unclassified students.

Transfer Students. — If a student transfers from one curriculum to another requiring fewer hours, a year of credit in the former will not carry more than a year of credit in the latter.

If a student transfers from one curriculum to another requiring more hours, the graduation requirements of the new curriculum must be met as far as hours and subject matter are concerned. For students transferring from other institutions, credit will be allowed for ROTC and Physical Education satisfactorily completed on the same basis as if the work were taken at Auburn.

A student who is excused for any reason from any subject will be required to substitute other approved work.

Auditing Privilege. — A person who is not matriculated in the university may audit lecture courses or the lecture part of a combined lecture and laboratory course with the approval of the dean and instructor of the subject. The auditing privilege is not regularly permitted in laboratory or combined lecture and laboratory courses; however, in exceptional cases, with the approval of the dean and instructor concerned, persons not matriculated in college may audit such courses upon payment of the auditing and laboratory fees. Auditors register with the dean and registrar and are listed on the class roll but do not participate in classroom discussions, take tests or final examinations, or make reports and may receive no grades or credits. A fee of \$5.00 will be charged for auditing a lecture course. Regularly enrolled students carrying 10 hours or more and members of the faculty may audit lecture courses upon approval of the dean and the instructor concerned without payment of the auditing fee. Graduate students may audit only one course per quarter.

Student Load. — The normal quarterly load for a student for any year shall be the maximum number of credit hours prescribed in the curriculum for any quarter of that year.

A student who carries not less than fifteen quarter hours (exclusive of remedial courses) in a quarter and passes all work carried in that quarter with an honor point quotient of 1.5 or more may schedule an overload not to exceed a total load of twenty-three quarter hours during the next quarter of residence at Auburn, provided the overload is approved by the student's dean. The overload privilege will not be lost by the student who schedules fewer than fifteen quarter hours in an intervening quarter or quarters provided he passes all work carried with a minimum honor point quotient of 1.5 in each of the intervening quarters.

In the Summer Quarter, students taking courses on the term basis not eligible for the overload will be restricted to the prescribed quarterly load but may take, in one term: (1) one five-hour term course plus ten hours of regular quarter courses; or (2) two five-hour term subjects.

If approved or recommended by the dean, less than the normal load may be taken.

Any freshman or sophomore student, who for any reason is excused from ROTC and Physical Education, when the normal load is seventeen hours, may be permitted to take a load of eighteen hours without payment of additional fees inasmuch as no two-hour elective courses are available.

A student registering for work in excess of the permitted load will be required to drop the overload during the official Change-in-Registration Period at the beginning of the quarter. If an overload is carried, the requirements for graduation will be increased by the number of credit hours carried in excess of the permitted load.

Grading System. — Final grades are assigned as follows: A, Superior; B, Good; C, Acceptable; D, Passing, but unsatisfactory; F, Failure. Honor points

are assigned as follows: A—3; B—2; C—1; D—0; F—0. For graduate students see under Graduate School.

A grade of "Incomplete" (IN) is assigned when the quality of work has been of passing grade, but the student has been prevented by illness or other justifiable cause from completing the work required prior to the final examination. If the student is both "Incomplete" in his work and absent from the final examination, the grade of "Absent Examination" shall be assigned. When a grade of "Absent Examination" is reported, the instructor shall indicate whether or not the quality of work has been of passing grade. If passing, a grade of "X" is assigned; if not passing, the grade shall be "XF". Grades of "Incomplete" and "Absent Examination" in required subjects not cleared within one resident quarter shall be repeated. Graduate students shall remove incomplete grades within a reasonable time and will not be allowed to graduate with grades of "Incomplete" on their records. A student absent from a final examination for any reason other than personal illness must obtain an excuse from the Council of Deans in order to take the examination.

A grade of "Withdrawn" (W) will be assigned when the student drops a course with the permission of the dean within the first two weeks of a quarter, or when he is permitted for special reasons to drop the course without penalty after this period. A grade of "Withdrawn Failing" (WF) is assigned to a course dropped with penalty.

If a student is dropped for excessive absences a grade of "FA" is assigned.

English Requirements.—All students are expected to maintain a reasonable standard of good usage of English, oral and written. Instructors are directed to insist on correct and accurate speaking and writing in all class work.

Freshmen who show on the placement tests at entrance lack of adequate preparation for freshman English, must take special preparatory work before being admitted to English 101. No substitution for the Freshman English requirement is permitted. Failures in Freshman English must be made up at Auburn University.

Credit in Freshman English earned in another institution may be allowed on transfer, as follows: (1) If the transferee has less than four and one-half quarter hours credit in Freshman English, no credit is allowed. (2) When the transferee has earned, with a minimum "C" average, four and one-half quarter hours, but less than nine, credit may be allowed in English 101, but any hours in excess of five shall not be counted toward graduation. (3) When the transferee has earned, with a minimum "C" average, nine or more hours and has met the first year English requirement of the other institution, credit may be allowed for both English 101 and English 102, provided the minimum of nine hours involves no duplication. A total of twelve hours may be accepted toward the graduation requirement when the twelve hours represent a continuous course sequence at one school.

Announced Quizzes.—At least two announced one-hour quizzes shall be held in each subject during the quarter, one in the first half of the quarter and the other in the last half. Other quizzes may be given as deemed necessary by the instructor and department head.

Examinations and Reports.—Examinations are classified as (1) final examinations at the end of each quarter and (2) special examinations. Grades in all subjects are reported to the students' parents or guardians at the end of each

quarter. Fees for special examinations are as follows: If taken at a regularly scheduled period, \$2.00; out of schedule, \$5.00. For regulations governing special examinations, see "Rules and Regulations for Students" in *The Tiger Cub*.

Mid-Quarter Deficiencies. — Deficiencies are reported at the end of the fifth week in each quarter.

Resignation. — After the scheduled date for reporting of mid-quarter deficiencies no student may resign from college and escape the penalty of failure. After this date the dean shall contact the student's instructors to determine his scholastic standing at the time of resignation and report such standing to the Registrar.

When a student through illness or physical disability is forced to resign after the mid-quarter and when this condition has been the main factor in causing scholastic deficiencies, discretionary power in determining whether a scholastic penalty is to be assigned shall not rest with the student's dean but with the Council of Deans. (See "Rules and Regulations for Students" in *The Tiger Cub* for detailed regulations.)

Extension and Correspondence Courses

The following regulations govern extension and correspondence courses: (1) Credit for undergraduate courses in extension and/or correspondence in the major subject or for requirements for the baccalaureate degree shall not exceed, including transfer credits so earned, ten per cent of the total credit required. An exception to this regulation prevails in the School of Education where a maximum of twenty-five per cent of the total credits, including transfer credits so earned, may be earned in extension and/or correspondence at the discretion of the dean. (2) Credit hours earned by correspondence or extension will be counted as any other credit hours earned toward meeting the requirements for graduation, but will not be included in the calculation for continuation in residence. Honor points will be assigned to such work toward meeting the requirements for graduation, but in no case will the number of honor points exceed the number of credit hours so earned. (3) Credit for extension teaching and correspondence courses taken at other institutions must be approved by the student's dean. (4) No student may enroll for a correspondence course without the approval of the dean of his school. (5) No student in residence may enroll for a correspondence course if he can schedule the course or a suitable substitute. (6) No student may receive credit for a course in extension teaching unless his dean shall have approved his enrollment in the course. (7) No student shall receive credit for correspondence work which, with courses taken in residence, makes a total exceeding the maximum allowed under college regulations. For special bulletin write to Dean Truman M. Pierce, Acting Director, Extension Teaching Division.

Credit for Work Done in Off-Campus Centers. — Permission to take work at a university off-campus center is at the discretion of the dean and within the established relationships between the center and the comparable school or college in the parent university of the center. It shall be the responsibility of the student to secure and file with his dean a statement from the center that he may use credit in the desired course toward meeting requirements for the appropriate degree assuming his enrollment at the parent university under comparable classification and circumstances.

Physical Education

Physical Education is required of all students under 26 years of age who are regularly registered for six quarters. Unless otherwise approved by the student's dean, each student who lacks physical education credits must register for physical education in his first and succeeding quarters of residence until all physical education requirements have been met. One quarter hour of credit shall be granted for each quarter. In addition to physical education, it is the aim of the Department of Physical Education to provide opportunities for all students of the college to participate in some form of recreational physical activity. These opportunities are offered through intercollegiate athletics, intramural sports, and the required physical education program. Athletic facilities are: A stadium with cinder track around football field, two additional athletic fields, baseball field, Alumni Gymnasium which contains basketball floor and swimming pool, field house, sports arena, and a series of tennis courts. See page 73 for physical education credit allowed for military service; also see Student Handbook for regulations governing physical education requirements for transfer students.

Reserve Officers Training Corps (ROTC)

Three Military Services — Army, Navy, and Air Force are represented by ROTC Units at Auburn. Entering freshmen may enroll in the ROTC of their choice at registration, except that enrollment in Naval ROTC is by competitive examination prior to registration.

Eligibility for enrollment in the Advanced Course of any ROTC will be subject to departmental policies, criteria, and quota limitations.

Military Training (Basic ROTC)

Successful completion of the Basic Course (Army, Navy, or Air Force ROTC) is a prerequisite for graduation of all male students except as noted below:

a. Students physically disqualified for military service under standards prescribed by the Departments of Army, Navy, and Air Force, and as determined by the College Physician.

b. Veterans with ninety days or more honorable active military service in the U.S. Armed Forces eligible to attend under G.I. Bill of Rights or the Korean War Bill. See also paragraph (4) on page 73.

c. Students more than 23 years of age prior to enrolling at Auburn for the first time are excused from Basic military training.

d. Transfer students who have attained junior or senior academic standing at the college last attended, or who lack not more than eighteen quarter hours of rating full junior standing at Auburn University.

e. Students with outstanding records in ROTC training at regularly established Junior ROTC Units, may be excused from the first year Basic Course providing the student applies for excuse and possesses a Certificate of Eligibility from the PMS&T of the Junior ROTC Unit. In no case will a student in this category be excused from more than the first year Basic Course. If so excused, enrollment in the second year Basic Course will be made at the beginning of the Sophomore year. Students with credit in first year basic ROTC pursuing Army ROTC training, who have successfully completed six

months active duty for training (ACDUTRA), may be excused from the second year basic course by the PMS&T.

f. Students who are not citizens of the United States.

Students enrolling in college for the first time and transfer students not otherwise excused are required to register for and attend scheduled military classes (Basic Course ROTC) in the first and succeeding quarters of residence until military training requirements have been met.

Military Service Credit

In the case of applicants who have served in the Armed Forces, credit will be allowed toward admission or advanced standing for service experience as follows:

(1) Courses completed in military service programs at the college level insofar as they fit into the student's curriculum as required subjects or as electives, as approved by the dean concerned.

(2) Officer candidate and special service training not strictly organized as college courses, and other formal or informal off-duty training. Credit may be allowed toward admission by the Registrar or advanced standing by the dean after review by the Registrar and the dean concerned of the official Separation Record and, as required, after passing with satisfactory scores or grades any field or subject examinations given through the Armed Forces Institute or by the department concerned. Credit for college level General Educational Development Tests is allowed as approved by the dean concerned, except that no credit is allowed in English.

(3) Correspondence courses. Credit may be allowed for college level courses completed by correspondence through the Armed Forces Institute, institutions approved by the Armed Forces Institute, and other accredited institutions as approved by the dean concerned.

(4) Veterans eligible to attend under the G.I. Bill of Rights or the Korean War Bill will be excused from Basic ROTC training and will be allowed college credit as follows:

Commissioned Officers — 24 Quarter Hours

Others — 6 Quarter Hours

Students who have completed a six-month Reserve Training Program (ACDUTRA) resulting in an honorable separation will be given college credit for the First Year ROTC Basic Course. Other students who have completed terms of military service resulting in an honorable separation, will be given college credit as follows:

For 6 to 12 months — First Year ROTC Basic Course (3 quarter hours)

12 months or more — The entire Basic ROTC Course (6 quarter hours)

Any such student who desires to enroll in the Advanced Course offered by the Departments of Air, Military, or Naval Science, shall complete as much of the Basic ROTC Course as may be prescribed as prerequisite by the department concerned.

(5) Students who have had active military service may receive credit in physical education as follows: for less than 6 months, no credit; for 6 months to one year, 1 quarter hour in Basic Physical Education, PE 120; for more than one year, 6 quarter hours.

Applicants desiring credit for formal training-time instruction, such as attendance at officer candidate schools, officer specialist schools, and technical

schools for enlisted men, or for formal or informal off-duty training, should submit records on the official separation form.

Selective Service Deferments

For regulations concerning Selective Service deferment based on enrollment in ROTC programs, see description carried in this catalog under the particular division: Air Science; Military Science; Naval Science.

Special Regulations

For complete information governing all Special Regulations, see "Rules and Regulations for Students" in the Tiger Cub.

Class Attendance

Students are expected to attend punctually every recitation, laboratory exercise, and other college duties.

Discipline

1. Government is administered by the President and the Council of Deans. Each student, by the act of registration, obligates himself to obey all rules and regulations.

2. Students are expected to conduct themselves along the lines of good citizenship by obeying the laws of the United States, the State of Alabama, the City of Auburn, and the University. Enrollment as a student in no way exempts any person from penalty in case of violation of local, state, or national laws.

3. Students are not permitted to participate in public entertainments or contests without previously obtaining permission of University authorities.

4. All publications supported by the Student Activities Fee are subject to supervision by the Board of Student Publications.

Continuation in Residence Regulations

Scholastic standing of students will be determined at the end of each spring quarter. Except as otherwise specified in these regulations a student must satisfy minimum credit hour and honor point requirements for all preceding quarters completed since September 1953, in order to continue in residence in the succeeding fall quarter.

The minimum requirements as stated below apply to all students (transfers included) except first-quarter freshmen and those students who have been enrolled at Auburn University for one quarter only since the inauguration of these regulations. To continue in residence, a student must:

1. Pass a minimum of 50 per cent of the total number of credit hours attempted through the 1st, 2nd, 3rd or 4th quarters in residence, and also accumulate not less than an equal number of honor points.
2. Pass a minimum of 70 per cent of the total number of credit hours attempted through the 5th, 6th, or 7th quarters in residence, and also accumulate not less than an equal number of honor points.
3. Pass a minimum of 80 per cent of the total number of credit hours attempted through the 8th or subsequent quarters in residence, and also accumulate not less than an equal number of honor points.

A student who does not meet these minimum requirements at the end of any spring quarter will be dropped from the rolls. After the first quarter of residence at Auburn University or elsewhere, a student will be dropped at the end of any quarter during which he does not pass at least 5 credit hours of work at Auburn.

In determining a student's eligibility for continuation in residence, hours passed and honor points earned will be computed on the basis of credit courses carried, except that a student who passes 5 hours including remedial work will not be dropped for failure to pass 5 hours.

A student dropped at the end of any quarter for scholastic deficiencies, may attempt to clear such deficiencies only during the following or a subsequent summer quarter. This attempt may be made only in residence at Auburn. The student shall have opportunity in but one summer quarter to clear all credit hour and honor point deficiencies accumulated to that date.

If during a summer quarter he succeeds in meeting the stated requirements for continuance in residence, he will be eligible to reenter at the beginning of the following academic year. If he fails during a summer quarter to reestablish eligibility for continuance in residence, he will be permanently dropped from the rolls.

A student while on dropped status may make no progress toward an Auburn University degree at Auburn or elsewhere, except while in residence at Auburn University during his make-up quarter. Any work done at another institution by a student while on dropped status shall have no effect on his eligibility for continuation in residence. A transcript of such work must be filed with the Registrar.

Credit hours attempted, credit hours passed, and honor points earned during a summer quarter or make-up quarter will be included in determining the eligibility for continuation in residence at the end of the first Spring Quarter after the student re-enters Auburn University.

Letters of warning will be sent by the student's dean to the student and his parents at the end of each quarter for each student who earns an honor point quotient of less than 1.0 during that quarter.

Freshmen, sophomores, and transferees who cleared less than 10 hours and/or 10 honor points during their preceding quarter or semester will be required to report to the Student Guidance Service during their next quarter at Auburn. Other students will be required to report to the Student Guidance Service for counseling when in the opinion of the dean concerned such service is needed.

A student who needs counseling must report to the Student Guidance Service to arrange for counseling within the first three weeks of the next quarter of residence and must complete counseling before the end of that quarter. A student failing to comply with this regulation will be dropped at the end of the quarter.

The Council of Deans reserves the right to drop from the rolls any student at any time for flagrant or continuous neglect of his work or failure to make satisfactory grades.

When a regular student's load, by voluntary withdrawal from courses or because of excessive absences, has been reduced to less than 10 quarter hours, at the discretion of the dean he may be recommended for suspension for the remainder of the quarter or for the succeeding quarter.

Special Regulations for Students Enrolled in the School of Veterinary Medicine

Students enrolled in the School of Veterinary Medicine who make a scholastic average less than 1.25 for any two quarters of one academic year may be dropped from the School of Veterinary Medicine for scholastic deficiency. A student who makes a grade of "F" on any course may be required to withdraw from the School of Veterinary Medicine until the beginning of the quarter in which that course is given during the next academic year, and he may be required to repeat certain other courses in the curriculum for that quarter.

Students who are dropped under the above provisions are eligible for admission to other curricula provided they meet the general scholastic requirements for continuance in college. The scholastic penalties incurred while enrolled in the School of Veterinary Medicine will become a part of the student's record.

Leave of Absence

A student whose work is satisfactory — as reported by his instructors — may be granted a leave of absence to represent the college in the following activities: athletics, band, orchestra, glee club, debating or oratorical contests, dramatic club, thesis work, inspection trip, and such other college activities as the President or Council of Deans may approve.

Degrees Conferred

Degrees are conferred as follows:

School of Agriculture: Bachelor of Science in Agriculture, Agriculture (Dairy Manufacturing), Agricultural Administration, Agricultural Engineering, Biological Sciences (Botany, Zoology, Entomology, Fisheries Management, Game Management), Forestry, Ornamental Horticulture.

School of Architecture and The Arts: Bachelor of Architecture, Arts, Interior Design, Building Construction, Applied Art.

School of Chemistry: Bachelor of Science in Chemistry, Chemical Engineering, Laboratory Technology, Medical Technology.

School of Education: Bachelor of Science in Education, Agricultural Education, Home Economics Education.

School of Engineering: Bachelor of Aeronautical Administration, Aeronautical Engineering, Civil Engineering, Electrical Engineering, Industrial Management, Mechanical Engineering, Engineering Physics, Textile Management, Textile Science.

School of Home Economics: Bachelor of Science in Home Economics (Clothing and Textiles, Foods and Nutrition, Home Management and Family Economics, Family Life and Early Childhood Education), and Bachelor of Science in Nursing.

School of Pharmacy: Bachelor of Science in Pharmacy.

School of Science and Literature: Bachelor of Arts, Bachelor of Science, Bachelor of Science in Business Administration.

School of Veterinary Medicine: Doctor of Veterinary Medicine.

School of Graduate Studies: For graduate and professional degrees see "School of Graduate Studies" in this catalog.

Degree Requirements

A student must have completed the requirements of his particular curriculum to be eligible for graduation. Beginning with the Fall Quarter of 1953 in addition to earning the required number of credit hours, he must have earned honor points equal in number to the credit hours required for graduation and have a minimum over-all honor point quotient of 1.0 for all credit hours applied toward an undergraduate degree or certificate. Honor points will be assigned only for credit hours accepted for graduation in the student's particular curriculum and credit hours earned in meeting the requirements for the degree. The honor point quotient requirement for graduation will be based on the credit hours and subjects required.

For a student who transfers from one curriculum to another within Auburn University or who transfers from another institution, honor points earned in the new curriculum must total the number of additional credit hours required. The transfer student must maintain an honor point quotient of 1.0 in the additional subjects required in the new curriculum as well as earn an honor point quotient of 1.0 in all subjects applied toward a degree. For the student transferring from other institutions, honor points will be assigned only to subjects accepted toward the degree and on the same basis as employed at Auburn University, except that honor points allowed on transfer credits toward a degree will not exceed the number of credit hours accepted toward that degree.

Not more than 10 quarter hours of the final year's work may be obtained through extension or correspondence courses, or both, unless the student has been in residence previously for one full session of 36 weeks, in which case credit will be allowed for 18 quarter hours in extension or correspondence, or both. All credit hours earned by correspondence or extension will be counted as any other credit hours earned toward meeting graduation requirements but will not be included in the calculation for continuation in residence. Beginning in the Fall Quarter of 1953 honor points are assigned to such work toward meeting requirements for graduation, but in no case will the number of honor points exceed the number of credit hours so earned.

Degrees are conferred at Commencement Exercises held at the close of each quarter. A degree will not be conferred in absentia without official permission.

The graduation fee of \$10.00 must be paid at the beginning of the quarter of graduation.

No student will be issued a diploma or statement of credits if he is in default on any payment due the institution or any school or division thereof.

Thesis. — A thesis on a subject related to the course of study may be required of each applicant for a bachelor's degree. In lieu of a thesis, a candidate may be permitted to report on special laboratory or research work in approved subjects. For graduate thesis see under "Graduate School."

Graduation with Honor. — Students completing graduation requirements with exceptionally high scholastic records and who have been in residence at Auburn University at least nine quarters are graduated with distinction.

A transfer student must meet the following additional requirements: (1) honor point quotient on all work taken in residence at Auburn University meets the minimum requirements for the honor, and (2) the over-all honor point quotient on all work taken in residence at Auburn University and elsewhere meets the minimum requirements for the honor.

A transfer student may not be graduated with a degree of distinction higher than that for which he would be eligible on the basis of his Auburn University record, and where his over-all average is lower than his Auburn record, the degree of distinction earned will be determined by his over-all honor point quotient.

A student whose record at Auburn University fails to meet the requirements established for one of the degrees of distinction may not be graduated with honor regardless of his record elsewhere.

In determining graduation honors, all work attempted in residence except remedial subjects, will be used in the calculations. Where transfer credits are considered, calculations will be based on the honor point values in use at Auburn University.

Grades of distinction and requirements are: "With honor," an honor point quotient of at least 2.4; "With high honor," an honor point quotient of at least 2.6; and "With highest honor," an honor point quotient of at least 2.8.

Residence Requirements. — To obtain a Bachelor's degree a student must take the final year's work at Auburn University. This regulation may be waived, at the discretion of the dean, for men who entered military service from Auburn University.

A minimum of 45 quarter hours and honor points and 36 weeks of residence is required for a second baccalaureate degree by a graduate of Auburn University. The minimum requirements for a second baccalaureate degree for a graduate of another institution are completion of the hours required in the final year of the curriculum with an equal number of honor points and 36 weeks of residence at this institution. A student must be enrolled in a curriculum at least nine months immediately prior to graduation. A minimum of 45 quarter hours and 36 weeks of residence is required for a Master's degree.

Graduate Placement Service

A Graduate Placement Office, established by the Alabama Department of Industrial Relations, is jointly operated by that department and Auburn University to assist graduates in obtaining employment in their chosen professions following graduation. This office brings numerous representatives from industrial and commercial concerns, and governmental agencies to the campus each quarter for personal conferences with students. Students who desire information and assistance should confer with the director in Room 213, Samford Hall.

Summer Quarter for Teachers

School administrators and teachers will find in the summer quarter a generous program of graduate and undergraduate courses well adapted to their needs.

Summer Quarter Student Teaching

During the summer quarter a workshop for experienced teachers needing credit for student teaching is conducted. Inexperienced teachers are not permitted to participate in this workshop. Students seeking high school credit should contact Mr. E. E. Gaither, principal of Auburn High School.

Requirements for Certificates to Teach

Auburn University has been approved by the Alabama Board of Education for giving instruction required for certificates to teach in Alabama schools. For regulations governing certification requirements see Bulletin 1953, Number 7, of the Alabama State Department of Education. See also "Certificates to Teach," page 131.

FEES AND EXPENSES

Auburn University reserves the right to deny admission to or drop any student who does not meet his financial obligations to the institution.

Fees are payable in advance at the beginning of each quarter registration as follows:

Basic Quarterly Charges for Regular Undergraduate Students

	College Fee	Student Activities Fee	Total
All Schools and Curricula			
Except Veterinary Medicine	57.50	7.50	65.00
School of Veterinary Medicine			
Veterinary Medicine	62.50	7.50	70.00

The University Fee is used to meet part of the cost of instruction, physical training and development, the cost of necessary laboratory materials and supplies for student's use, maintenance and operation of the physical plant, the Library and the Student Health Service.

The Student Activities Fee supports affairs on the campus, namely; Intercollegiate Athletics, Auburn Band, Debating, Dramatic Arts, Glee Clubs, Glomerata, Intramural Sports, Plainsman, Religious Life, Social Affairs, Student Government, and Student Union Building Fund. This fee includes 50 cents which will be held in reserve to cover unnecessary damage to college property by students. Any unused portion of this amount will revert to the credit of the activities listed in this paragraph.

Other Fees and Charges

- (1) **Field Training Courses in Home Economics** one-half of regular college and non-residence fees. Student Activities Fee optional. If elected, full fee charged.

Charged For: Retail Training — HE 335

- (2) **Handling Charges**

\$1.00

- (a) For Registration Fees Billed Home
- (b) Unhonored Checks returned from Bank
- (c) For Delayed Payment of Registration Fees

(Arrangements for paying registration fees and charges should be worked out in advance.)

- (3) **Service Charge for Late Registration**

2.00 to 5.00

All students in any quarter, who are scheduled to pre-register for the succeeding quarter, must do so, clearing their fees on the dates set for payment of fees. Failure to do so will cause a \$2.00 service charge to be collected from such students up to and including regular mass registration dates for the suc-

ceeding quarter, regardless of student's reason for failure to make payment on time. Any undergraduate student taking ten hours or more on quarterly basis will be charged a \$5.00 service charge for registration or fee payment after classes begin. (Graduate and part-time students have one week after classes begin, before late fees apply.)

(4) Non-Resident Fee

Non-resident students with the exception of sons and daughters of ministers are required to pay a tuition fee each quarter.

(5) Laundry and Dry Cleaning (Optional)

This fee is optional for both men and women students and is not refundable except in case of resignation after two weeks from the beginning of school term. This service is furnished by Young's Laundry of Auburn and includes laundry, pressing, and dry cleaning.

(6) R.O.T.C. Uniform and Equipment Deposit (Refundable)

All students, both Basic and Advanced, are required to deposit the sum of \$30.00 with the Bursar of the University, prior to enrollment in R.O.T.C. They are then furnished a uniform in good condition and other necessary supplies through the R.O.T.C. Supply Office. Upon completion of the R.O.T.C. course of instruction, or upon withdrawal of the student therefrom, the uniform and other supplies are turned in and the deposit returned to the student, less \$1.50 per quarter withheld by the Bursar of the University to cover the cost of cleaning and repair of uniforms, purchase of instructional material, scholastic and marksmanship awards, streamers, citation cords, and special apparel for competitive drill team.

The above is subject to change in accordance with demands of the Army, Navy and Air Force training programs.

(7) Chemistry Breakage Card or Pharmacy Breakage (Refundable) each

(8) Change in Course Fee

This charge is made for each separate change with dean's permission after classes begin.

(9) Change in Curriculum Fee

(10) Auditing Fee

Per Subject

Any student who pays less than full-time fees must pay this fee for auditing a subject.

(11) Re-examination Fee each

(12) Special Examination Fee or Equivalency Examination each

(13) Pilot and Private Instruction Courses Maximum (See No. 24 next page.) For description of these courses see section on Aeronautical Engineering.

(14) Transcript Fee

(15) Graduation Fee

This fee is payable at beginning of the quarter in which the student is a candidate for a degree.

Duplicate Diploma Fee

(16) Correspondence Study Course Fees per credit hour

- (17) **Part time undergraduates** First Hour 10.00
(Additional Hours, total not to exceed 9 Hours, at \$5.00. No non-resident fee charged. Student Activities Fee optional.) If more than 9 Quarter Hours carried, full undergraduate fees are payable. Six-week courses of 5 or more quarter hours call for payment of $\frac{1}{2}$ regular undergraduate fees for a quarter.
- (18) **Graduate Students** First Hour 10.00
Additional hours \$5.00 each per quarter. Separate registrations for six weeks term cost \$10.00 for first hour and \$5.00 per hour for each additional hour. Student Activity Fee optional, no non-resident fee charged. Graduate students registering for 10 hours or more will be entitled to student health service.
- (19) **Thesis Only** — non-credit course 5.00
- (20) **Thesis Binding Fee** Per Copy 2.50
Number of copies required ranges from three to five.
- (21) **Music Fees**
Applied Music — one $\frac{1}{2}$ hour lesson a week 20.00
Applied Music — two $\frac{1}{2}$ hours lessons a week 30.00
Applied Fundamentals of Music
(Class instruction in piano or violin) 5.00
Practice Fee — per quarter — one hour per day 3.00
two hours per day 5.00
Instrumental Rental Fee — per quarter 3.00
- (22) **Special Pilot Training Fees** — The special fees for the pilot training courses are:
AE 306 Private Pilot Training — Flight, maximum 423.18
AE 406 Commercial Pilot Training — Flight, maximum 2,100.00
AE 423 Flight Instructor Training, maximum 497.77
(Subject to change without notice.)
- (23) **Microscope Purchase**
It is required that students entering Veterinary Medicine own a microscope prior to admission. (See Section on Veterinary Medicine.)
- (24) **Registration Cancelled and Fees Refunded**
If a student pre-registers for the next quarter, then withdraws prior to the opening of the quarter, all fees are refunded. If a student resigns within the first two weeks after classes begin, all fees, less charges, will be refunded except the sum of \$7.50 which will be retained as a registration fee; and except the sum of \$5.00 paid as student health fee if the student has participated in any part of the student health program including the entrance physical examination. If a student remains in school longer than two weeks after classes begin no refund will be made of any fees applying for that quarter except on resignations caused by personal illness, or call into military service.
- (25) **Room and Board** — All women students, except those granted special permission by the Dean of Women, are required to live in dormitories and take their meals at the Women's Din-

ing Halls. Residents in the dormitories for men students may elect to take their meals in the dormitory dining halls, in the school cafeterias, private boarding houses, or other places of their choice.

Rate: Room and Board, per quarter 165.00
(for further information, see below.)

- (26) Nursery School and Kindergarten
Main Nursery School (per quarter) 25.00
Auxiliary Nursery School (per quarter) 12.00
Kindergarten (per quarter) 15.00
(For registration information, contact Chairman, Nursery School and Kindergarten.)
- (27) Internship Fee — Veterinary Medicine (off campus) 3.00
(on campus) 12.50
- (28) Doctoral Dissertation microfilming fee 25.00

Room Reservations

1. Women students wishing to reserve a room in university housing should send a deposit of \$10.00 to Head of Women's Housing. Reservation for the following Winter, Spring, Summer and Fall Quarters will be accepted on or after October 1st of each year.

2. Inquiries regarding rooms for men students should be addressed to Coordinator of Men's Housing. The inquirer will be furnished an application for housing. This application, with a \$10.00 room deposit, should be returned to the person designated on the application. Room deposits will assure the applicant that he has a room and will be held to cover the loss and damage to dormitory property. The deposit is not applicable to the room rent.

3. Refund of room reservation fee, when due, will be mailed each resident. Refunds will be made only: (1) When the room reservation is canceled no less than 14 days prior to the opening of the quarter for which the room has been reserved, except that all applications for refund of room deposit fee for the Fall Quarter must be received not later than August 15, otherwise no refund will be made; (2) When the room is vacated at the end of a quarter; (3) When the resident enters military service during the quarter.

Room and Board Charges

Room and board in all women's dormitories is \$165.00 per school quarter. Room and board for men students in Magnolia Dormitory is \$165.00 per school quarter. The Magnolia Dormitories resident may elect to take meals for only 5 days a week at a cost of \$95.00 for the quarter, or he may elect to have his meals outside of the dormitories in which case he will pay room rent only, \$53.00 for the quarter.

Students who, at the beginning of the quarter, elect to have meals in Magnolia Dining Hall may withdraw from such arrangements within the first two weeks of the quarter and receive a refund of amounts paid, less a minimum charge for board for two weeks plus a \$7.50 surrender charge upon return of meal tickets issued. No change in board arrangements may be made by dormitory residents after the two-week period has expired. Students withdrawing from the dormitory or resigning from school after the allowable two-week period will be charged on a daily basis plus the \$7.50 surrender charge.

Room and board bills are to be paid at the office in each of the dormitory areas. Accounts not cleared on or before the 5th day of the current month

or 5th day of the term, whichever date comes earlier, are subject to a late fee of \$1.00 per day to a maximum of \$5.00. All room and board accounts are due and payable in full at the beginning of each quarter. However, where deemed necessary, arrangements may be made at the Cashier's Office in the student's dormitory area for payment of the amount in not more than three installments. Such payments must be made at the beginning of the period they are intended to cover. For information in advance concerning part payments, write the Housing Manager in the Men's Dormitories or Women's Dormitories, as applicable.

Authorized refunds of room rent will be made on a calendar week basis and board charges on daily basis when students leave the University dormitories and dining halls. A minimum charge of $\frac{1}{3}$ of the quarterly room rent rate will be charged any student vacating rooms after school opens, with refunds being made not to exceed $\frac{2}{3}$ of the quarter (12 weeks) rate. A calendar week begins on Sunday. Students vacating dormitory rooms without proper notice to the dormitory office concerned will be charged rent on the room until such notice has been properly filed with that office that the room has been vacated.

Although every effort will be made to maintain the present room and board prices, it may be found necessary, if food prices advance abnormally, to increase these costs.

For men students living in private dormitories, cooperative boarding houses, private homes, and fraternity houses, rooms without meals range from \$45.00 to \$60.00 for each school quarter. The meals in boarding houses near the campus are about \$45.00 a month.

LIVING ACCOMMODATIONS

The over-all dormitory program is operated on the basis that a university education is not confined to class-room activities. A true university education includes the total experience of living within an educational environment. A schedule of activities, student government, and a diversified program which the residents help plan and in which they participate are important parts of university education.

In all university dormitories and apartments, careful precautionary measures are taken to assure the security of the residents and their personal property. However, the University does not insure personal property of the residents and is not responsible for damage to or loss of personal property of occupants of university-owned facilities.

Men Students

Auburn University provides dormitory accommodations for approximately 1,500 men students. The men's dormitories are in three areas, Magnolia Dormitories, Graves Centre Cottages, and Auburn Hall.

Magnolia Dormitories, housing 1109 students, is a three building unit on the north western part of the campus. All units are of brick hollow-tile, and steel construction and together form one of the best equipped resident areas for college men in the South. Magnolia Hall was completed in 1948, Bullard Hall was completed in 1952, and Noble Hall was opened in January of 1957. Each of these buildings is connected with another to form a harmonious architectural and living pattern. All buildings are arranged into divisions of approximately 40 students. These residents sharing the experience

of living together form the basis of the dormitory program. There is a dormitory counselor for each division. The dormitory counselors are assisted by graduate counselors under the direction of the Resident Counselor and the Dormitory Manager in carrying out the dormitory program.

In the Magnolia Dormitories two students share a room. Each student has his own single bed, closet, and study table. The dormitory contains well appointed lounge and recreational areas, a post-office, a snack bar, and other facilities to make a complete living unit. The Housemothers, the Resident Counselor, and the Family in Residence have their apartments in the buildings.

Auburn Hall, a brick veneer structure, is on Thach Avenue one and a half blocks from the main campus. Each room is equipped with double deck beds, four closets, lavatory, study tables, and chairs. Two men students share each room. The housemother has her apartment in the dormitory and is in charge. She is assisted by selected upper classmen who are dormitory counselors, and by a graduate counselor.

In the Bibb Graves Centre there are 30 cottages housing men students. The cottages are located in a landscaped area around an amphitheatre. Varsity athletes are housed in several of the units. A staff member with his family lives in one of the cottages. Eight students are housed in each of the buildings. Each building contains two separate living units with sleeping and study rooms with a bath on each side of the cottage. Each student has his own single bed and study table.

In addition to the dormitory housing accommodations for men students, housing may be obtained in private dormitories and homes in Auburn, and in the fraternity houses. The Coordinator of Men's Housing on the ground floor of Langdon Hall maintains for the convenience of students a file of off-campus accommodations for men.

Married Students

Auburn University operates two housing projects for married students:

- A. **Forest Hills Apartments** — 240 units, 80 two bedroom and 160 one bedroom apartments, furnished, completed September 1959. Furnishings include all-electric kitchen, completely furnished living room and bedroom, spacious closets, ample cabinets, all-tile bath with shower-tub combination, inner-spring mattresses, steam heat, TV outlet, etc.
- B. **Graves Centre Apartments** — 125 units, one, two and three bedrooms, temporary, partly furnished.

Deposits are accepted for both projects from prospective students who have been accepted by the Registrar. For additional information write: Housing Manager, 901 West Thach Avenue, Auburn, Alabama.

The Student Guidance Service, First Floor, Langdon Hall, maintains a registry of privately owned apartments and will be glad to assist incoming students in locating suitable housing. All arrangements should be made before the student brings his family to Auburn.

Women Students

Housing for approximately 1300 women is furnished in the Women's dormitories, located near the center of the campus. The dormitory group consists of the following:

Women's Dormitories

No.	Name	No.	Name
I	Elizabeth Taylor Harper Hall	VII	Mary Lane Hall
II	Kate Conway Broun Hall	VIII	Ella Lupton Hall
III	Willie Gertrude Little Hall	IX	Helen Keller Hall
IV	Margaret Kate Teague Hall	X	Marie Bankhead Owen Hall
V	Letitia Dowdell Hall	XI	Annie White Mell Hall
VI	Allie Glenn Hall	XII	Dana King Gatchell Hall

Harper, Broun, Little and Teague Halls, Social Center and the Women's Dining Hall form a Quadrangle in the foreground of the dormitory area. The Dining Hall also faces the other dormitories located to the south of the Quadrangle.

Each dormitory houses approximately 100 girls. There is a Head Resident, who has a suite of rooms in the building, in charge of each dormitory. The head resident serves as counselor to the students as well as serving as hostess in the dormitory. Lounge space is furnished in each building.

The bedrooms in the dormitories listed above are arranged in suites consisting of two double rooms connected by a tile bathroom. Each room accommodates two girls; however, three girls may be assigned to a room on a temporary basis when the dormitories are unusually crowded. The rooms are equipped with twin beds, a double desk with two desk chairs, a reading lamp, a bedside table, an easy chair, and a dresser or chests. All students provide their own bed linens and any other items they wish to use in making their rooms more attractive.

Social Center is a southern colonial building in which are located the offices of the Dean of Women, the Assistant Dean of Women, the Head of Women's Housing and the Dormitory Supervisor. Here, also, is a cashier's office at which women students pay room and board. The post office for all dormitories in this area is located in this building. In addition, there are two large living rooms, a dining room, and a kitchen which may be used by student groups.

Graduate House is a small dormitory housing fourteen graduate students. It is located on Mell Street. Also located on Mell Street are two other small auxiliary housing units. These units are used during quarters when the dormitories are unusually crowded.

Alumni Hall, located on College Street, houses approximately 100 girls.

Susan Smith Cottage on South College Street is a cooperative house accommodating twenty-six girls who do all the planning and preparation of their meals as well as their own house work. This cooperative plan of management greatly reduces living expenses. To live in Susan Smith Cottage a girl must have a good scholarship and a good citizenship record.

Residence in the dormitories is compulsory for all women students unless special permission has been given by the Dean of Women for them to live elsewhere. Students will be subject to regulations of the University and the Women's Student Government Association at all times.

All students residing in the dormitories must eat in the college dining halls. Meals are served here under the supervision of trained dietitians. Costs for special diets will be borne by the student.

No room reservation is binding until a fee of \$10.00 has been received. This should be sent to the Head of Women's Housing. For room and board charges see page 81.

Financial Aid at Auburn

A number of scholarship and loan funds to aid worthy students in meeting their university expenses have been provided by civic organizations, business concerns, and individuals. A special bulletin giving sources of financial aid may be obtained by writing to Dean J. E. Greene, Chairman, Committee on Scholarships.

Sources of aid not available through the Scholarship Committee are as follows:

Federal and State Vocational Rehabilitation Aid — Students with physical handicaps may obtain grants-in-aid covering university fees, books, supplies, and, in some cases, general maintenance through the Vocational Rehabilitation Service. Federal and state appropriations support this service. For information and application blanks, contact Frank Jenkins, District Supervisor, Vocational Rehabilitation Service, 115 Thach Hall, Auburn, Alabama.

Graduate School Fellowships and Assistantships — To promote scholarship and research among graduate students, a number of teaching fellowships, graduate assistantships, and research fellowships and assistantships carrying substantial stipends are available. Apply not later than March 15. Contact the Dean of the Graduate School for information and application blanks.

U. S. Navy — The U. S. Navy, under the Holloway Plan, offers a number of students tuition and fees, plus an allowance for expenses, for four years. Recipients are determined after nation-wide examinations held each December. They enter college as Midshipmen, USNR, under the Regular NROTC program. In return for this aid, they must complete four years of Naval Science, make all required summer practice cruises, and after commissioning as Ensigns, U. S. Navy, or Second Lieutenants, U. S. Marine Corps, they serve four years on active duty at the discretion of the Secretary of the Navy. They may remain as career officers in the regular Navy or Marine Corps. For further information, see the School of Naval Science section in the university catalog.

Cooperative Program

Students in certain curricula who qualify are offered an opportunity to participate in a plan of education known as The Cooperative Program. It offers a student a chance to add meaning and purpose to his theoretical classroom instruction by combining it with practical experience in a business or industrial job assignment.

The co-op student alternates between school and industry on a quarterly basis and while he is in school takes his courses as a regular student. His degree requirements are the same as regular students. The program is offered to students in aeronautical, chemical, civil, electrical, and mechanical engineering; engineering physics; aeronautical administration; building construction; business administration; industrial management; textile management and textile science; and mathematics. For further information, write to C. E. Gearing, Director of Engineering Extension.

Employment Services

The Nonacademic Personnel Office maintains a student employment service to assist students in obtaining employment to defray a portion of their educational expenses. Employment on the campus on a part-time basis is provided

for students through the following fields: clerical, library, laboratory, agricultural, food service, and others.

Off-campus jobs also are frequently available and these calls are received throughout the year and usually require immediate placement. Students interested in part-time employment should apply at the Nonacademic Personnel Office, Temporary Building 10-A, after completing registration.

The Nonacademic Personnel Office also assists student wives and others in locating employment. Applicants should contact that office for the necessary applications and additional information.

STUDENT LIFE AND ACTIVITIES

Counseling Service

The University endeavors to maintain counseling and guidance services for its students. Each academic dean, either personally or through appointed assistants, guides each student in his academic problems, especially in arranging schedules, maintaining residence requirements, and satisfying subject matter degree requirements. The Registrar and his assistants advise the student regarding hours required for graduation. In addition counseling services of other sorts are available. The Director of Student Affairs and the Dean of Women with their respective staffs are especially concerned with any student problem, educational, vocational, or personal.

The Student Guidance Service is located on the ground floor of Langdon Hall. Through this Service the University offers aid to the students in personal, educational, and vocational areas. The Service is staffed with experienced and trained counselors and is under the overall administration of the Department of Student Affairs. Students come to the Guidance Service on their own initiative and are referred by members of the faculty. In the Guidance Service there is a library of occupational information which many students find helpful.

A testing program is a part of the Student Guidance Service and is available at the student's request. High school students seeking aid in planning for training beyond high school are also invited to use, without obligation, the facilities of the Guidance Service.

It is the duty of each staff and faculty member to maintain a close personal relationship with students. Each teacher welcomes an opportunity to aid students with academic and personal problems whether the contact be formal or informal in nature.

Student Health Service

The Student Health Service of Auburn University renders the following services: (1) Out-patient medical and surgical service by staff doctors only; (2) hospitalization at the University Infirmary; (3) local ambulance service; (4) medical supervision of the physical education and athletic programs; (5) health education; and (6) campus sanitation. These services are administered by the medical staff of the Health Service.

The University owns and operates a 65-bed infirmary equipped with a modern clinical laboratory and X-ray facilities. The Health Service performs a

complete physical examination of all entering students, which includes a photoroentgenogram. Working in conjunction with the State Health Department annual chest X-rays are given to students, faculty members and employees of the school. After physical evaluation of each student, recommendations are made to the student, to the dean of his respective school, to the physical education department, and to the military department.

Before being approved for admission evidence of immunization for Tetanus Toxoid, Typhoid and Para-Typhoid, and Smallpox must be filed on the Immunization Record Form furnished by the Registrar's Office.

No major surgery is performed in the Infirmary. Elective surgery should be performed in the student's home town, or by referral to a specialist during vacation periods or to a local surgeon. Emergency surgical operations are the responsibility of the student. Students who are in need of emergency operations and those having severe multiple or compound fractures will be referred for treatment and the expense will be a responsibility of the student. The University has available a surgical consultant who may be called when needed. The expense will be charged to the student requiring such consultation.

The Student Health Service is available to all regularly enrolled fulltime students of the institution. Medical service is not provided by the University for the families of married students, but a list of local physicians will be made available by the Student Health Service upon request.

The Out-Patient Clinic is open from 8:00 a.m. to 11:30 a.m. and 1:00 p.m. to 4:00 p.m. each week day, Monday through Friday. Clinic hours are from 8:00 a.m. to 11:30 a.m. on Saturday, and 8:30 a.m. to 9:30 a.m. each Sunday. Emergency treatment is available 24 hours daily. Visiting hours at the Infirmary are from 10:00 a.m. to 11:30 a.m., 3:00 p.m. to 4:30 p.m. and 7:00 p.m. to 8:00 p.m. each day. Only two visitors per patient are allowed to call simultaneously.

University physicians do not make calls outside of the Infirmary or attempt to treat students in their rooms. Students who are too ill to come to the Infirmary will be furnished with local ambulance service. Parents will be notified by the college physician if a student is believed to be seriously ill.

Each student is entitled to 15 days free hospitalization at the University Infirmary during each school year. This includes professional services of the medical staff of the Student Health Service, general floor nursing care, ordinary medications, room and board, linen, and routine laboratory and X-ray procedures.

The Student Health Fee does not include surgery, consultation, special X-rays, special medications, or special nurses. A charge is made for these, but only an amount sufficient to cover the cost.

The services of local physicians are available at the student's expense either at their places of residence or when the student is properly admitted to the University Infirmary.

The Student Health Service is not available to students during the following vacation periods: Christmas Holidays and the periods between the close of the Summer Quarter and the opening of the Fall Quarter.

During epidemics, the Staff of the Student Health Service will make every possible effort to care for ill students at the Infirmary, but if our staff and facilities are inadequate, we will not assume responsibility for the payment of services rendered by outside doctors or other hospitals.

Automobile Registration

Registration of four-wheel motor vehicles will be a part of the academic registration procedure at the beginning of the Fall Quarter each year for all undergraduate and graduate students, and will be part of the registration procedure at the beginning of the Winter, Spring, and Summer Quarters for all students not already registered. Students who bring unregistered cars on the campus after any registration period for longer than a weekend must register them at the University Security Office, Department of Buildings and Grounds, within 48 hours after arrival on the campus. Faculty and Staff members shall register their four-wheel vehicles at the University Security Office. Failure to register a four-wheel vehicle, to use the proper decal and to park in the proper zone will constitute a violation and subject the violator to certain penalties. For specific information regarding designated parking areas, traffic regulations and controls, violations and penalties secure a copy of the "Parking and Traffic Regulations" from the university security office.

Lecture and Concert Series

The University, through the Lecture and Concert Committee, composed of faculty and student members, brings to the campus each year a wide variety of lectures, concerts and other programs of cultural value. This project is financed through the student activities fee, and all students are admitted without charge upon the presentation of their student identification card.

Intramural Sports

The Intramural Sports Department offers to students, both men and women, many opportunities to participate in competitive team, and individual sports, and recreational activities. Healthful sports, good sportsmanship, and friendly competition are stressed. All students are urged to participate in the program which is entirely voluntary and largely student supported and supervised.

Regular tournaments are offered in seasonal team and individual sports.

Fall Quarter. — Touch football, swimming, volleyball.

Winter Quarter. — Basketball, bowling, table tennis.

Spring Quarter. — Badminton, golf, softball, tennis, track.

Summer Quarter. — Softball, tennis, golf, swimming.

Check-out Service — Intramural Sports for Men also operates a check-out service in the basement of the Auburn Union Building. Any student may check out athletic equipment either on a 24-hour basis or over weekends.

Honorary Organizations

Ag. Economics Club

Alpha Beta Alpha (4-H Members)

Alpha Epsilon Delta (pre-medical)

Alpha Lambda Delta (freshman scholastic honorary for women)

Alpha Zeta (agriculture)

Caissons Club (Army ROTC artillery corps)

Chi Epsilon (civil engineering)

Delta Omicron (music honorary for women)

Delta Sigma Pi (business administration)

Eta Kappa Nu (electrical engineering)	Pi Sigma Epsilon (salesmanship & marketing)
Kappa Delta Pi (education)	Pi Tau Pi Sigma (Signal Corps)
Kappa Epsilon (women in pharmacy)	Pi Tau Sigma (mechanical & aeronautical engineering)
Omicron Nu (home economics)	Rho Chi (pharmacy)
Phi Delta Kappa (men's education)	Scabbard and Blade (ROTC)
Phi Eta Sigma (freshmen scholastic honorary for men)	Scarab (architecture)
Phi Kappa Phi (national senior scholastic honorary)	Sigma Pi Sigma (national physics honor society)
Phi Lambda Upsilon (chemistry)	Steerage (NROTC)
Phi Mu Alpha (men students in music)	Tau Beta Pi (engineering)
Phi Psi (textiles)	Tau Kappa Alpha (national forensic honorary)
Phi Zeta (veterinary medicine)	Xi Sigma Pi (forestry)
Pi Mu Epsilon (mathematics)	

Campus Leadership and Service Organizations

"A" Club — Varsity letter in football, baseball, basketball, or track.

Alpha Phi Omega — National service fraternity for men students previously connected with the Boy Scout movement.

Auburn Veterans Association — Service organization open to veteran students.

Blue Key — National honor society for men.

Circle "K" — Service Club.

Cwens — National honor society for sophomore women.

Gamma Sigma Sigma — Women's service organization.

Mortar Board — National honor society for senior women.

Omicron Delta Kappa — National honor society for senior men.

Spades — Local honor society of ten most outstanding senior men.

Squires — Local honor society for sophomore men.

Towers — Women's independent organization.

Departmental and Professional Organizations

Agricultural Council

Agronomy Club

American Chemical Society

American Institute of Aeronautical Science

American Institute of Architects

American Institute of Chemical Engineers

American Institute of Electrical Engineers

American Pharmaceutical Association

American Rocket Society

American Society of Agricultural Engineers

American Society of Civil Engineers

American Society of Mechanical Engineers

Angel Flight

Auburn Camera Club

Auburn Debate Club

Auburn Gymnastic Club

Auburn Players (Dramatics Club)

Auburn Radio Club

Auburn Speleological Society

Auburn Student Education Assn.

Arnold Air Society

Art Guild (Advertisement & Industrial Design)

Block and Bridle Club (Animal Husbandry)	Junior American Veterinary Medical Association
Builders Guild (Building Construction)	Latin-American Club
Dairy Science Club	Omicron Kappa Pi (Decor Club)
Dana King Gatchell Home	Phi Delta Chi (Pharmacy)
Economics Club	Physical Education Club
Omicron Kappa Pi (Decor Club)	Poultry Club
Dolphin Club (women swimmers)	Pre-Veterinary Medical Assoc.
Forestry Club	Skin Diving Club (Tiger Sharks)
Future Farmers of America	Society of Advancement of Management
Horticulture Forum	Society of Am. Military Engineers
Industrial Design Forum	Spiked Shoes
Institute of Radio Engineering	Track and Saber
International Relations Club	Women's Recreation Association

Social Fraternities and Sororities

The following national social fraternities have established chapters at Auburn:

Alpha Gamma Rho	Phi Kappa Tau
Alpha Psi	Pi Kappa Alpha
Alpha Tau Omega	Pi Kappa Phi
Delta Chi	Sigma Alpha Epsilon
Delta Sigma Phi	Sigma Chi
Delta Tau Delta	Sigma Nu
Kappa Alpha Order	Sigma Phi Epsilon
Kappa Sigma	Sigma Pi
Lambda Chi Alpha	Tau Kappa Epsilon
Omega Tau Sigma	Theta Chi
Phi Delta Theta	Theta Xi

The Interfraternity Council — regulates the relationships between the member fraternities.

The following national social sororities maintain chapters at Auburn:

Alpha Delta Pi	Delta Delta Delta	Phi Mu
Alpha Gamma Delta	Delta Zeta	Pi Beta Phi
Alpha Omicron Pi	Kappa Alpha Theta	Zeta Tau Alpha
Chi Omega	Kappa Delta	

The Pan-Hellenic Council — regulates the relationships of the sororities.

Student Government

The Student Body

The Student Body officers are elected by the students to work for the betterment of the students and the university. There are three branches of the Student Body: the President and his Cabinet; the Judiciary; and the Senate.

Women's Student Government Association

All women students are members of the Women's Student Government Association. The W.S.G.A. plans and carries out a well-organized program for women students through its elected officers and its Legislative and Judiciary Councils.

Student Publications

The Auburn Engineer — published monthly for and by students in Engineering.

The Auburn Forester — published annually by students of the department of Forestry.

The Auburn Veterinarian — booklet published quarterly for and by students in Veterinary Medicine.

The Glomerata — student annual publication; production costs covered by Student Activities Fee and advertising.

The Helm — a monthly paper published by NROTC students.

The Plainsman — a weekly paper published by students of the institution; production costs covered by Student Activities Fee and advertising.

The Tiger Cub — annual student handbook; production costs covered by Student Activities Fee and advertising.

The Auburn Union

The Auburn Union is the center of non-academic student and faculty life. The building, located in the heart of the campus, provides a living room for students away from home — a place to relax, to entertain friends, and to find convenient dining and school supply service. Planned programs of social, recreational and cultural events help develop students in the art of human relations.

Located in the Auburn Union are the War Eagle Cafeteria and Snack Bar, The Alumni Offices, Faculty Club, Student Government Offices, Publications Offices, The University Book Store, The Union Ballroom, meeting rooms, commuters lounges, banquet rooms, reading and TV lounges, and Union staff offices.

The main desk has become the central information center on campus. On hand are the registration cards on each student enrolled, listing class schedule, home address, and campus address.

Religious Organizations

The student religious organizations of the churches of Auburn provide opportunity for worship, participation in religious programs, wholesome recreational and social activity and closer personal association with members of the faculty. These organizations are: Baptist Student Union; Disciples Student Fellowship (Christian Church); Church of Christ's Young People's Organization; the Canterbury Club of the Episcopal Church; Legion of Mary and the Newman Club of the Catholic Church; Gamma Delta, the International Association of Lutheran Students; Wesley Foundation of the Methodist Church; Westminster Fellowship of the Presbyterian Church; Hillel Counselship of the Jewish Faith; Liahona Fellowship of the Reorganized Church of Jesus Christ of Latter Day Saints; and the Christian Science Organization.

The Student Council on Religious Activities, composed of representatives of these organizations, the student body, and the university staff, serves as a functional organ for promoting and sponsoring campus-wide religious activities

in which operational coordination is needed to give the best benefit to the students of Auburn University.

Religious Emphasis Week is held each year as a period of especial emphasis on the spiritual values of life. Well-known spiritual leaders are brought to the campus through the cooperation of the Faculty Committee on Religious Life and the various religious organizations. The purpose of this program is to promote spiritual values and a broad spirit of tolerance among the students, and to show that religion is continually relevant to the social issues of the day.

Independent Organizations

Towers — Towers is a social and service organization for women students not affiliated with a social sorority. It was organized in 1958 and its aims are: to maintain close sorority and independent relationship at Auburn; to encourage leadership and scholarship among members and affiliates; to provide an outlet for non-affiliated women students; to promote projects that benefit the entire student body of Auburn University.

Musical Organizations

Auburn Bands — The bands are maintained by the university for regularly enrolled students who wish to develop their music ability and to participate in many university and off-campus activities. The **Marching Band**, which accompanies the football team on its trips to games in this area, and which represents the university for various university, state, and out of state functions, normally consists of approximately one hundred players, who receive special training in drill formations. Physical Education may be waived for students during the fall quarters in which they are members of the Marching Band. (See Band Director for details.) The **Concert Band** consists of advanced students who have passed the work of the preliminary bands, and students who are preparing to teach band in the schools. It provides music for various university activities and some off-campus functions such as concert tours. Regular training which embodies instruction in the rudiments of music and the use of band instruments is given free of charge at the band practice periods. These activities may be taken with or without university credit.

Auburn University Orchestra — The Orchestra is sponsored by the Music Department for the development of musical talent and individual achievement in ensemble playing. Students at the early stages of musical training, especially those in violin, viola and cello are invited to participate. Membership is by permission of the director. This activity may be taken with or without university credit.

Auburn Glee Clubs — The **Men's Glee Club**, the **Women's Glee Club**, and the **Mixed Chorus** are large study and performing choruses open to any student. Regular rehearsals and participation in campus and off-campus activities are a part of these courses. Admission to the **Concert Choir** is obtained by audition; a high degree of proficiency in choral singing and a systematic study of serious choral literature is expected of the men and women who are chosen for this group. These activities may be taken with or without university credit. Qualified students are selected to sing in the **Men's Octet** and the **Women's Octet**.

The **Octets** are often called upon to furnish light, entertaining music for events at Auburn and throughout the state.

Auburn Opera Workshop — This organization has as its primary purpose the training of students in the various phases of operatic production largely through actual stage performances of outstanding operas. Membership is open with or without university credit to all students. Each year the group produces several operas sung in English. Students are assigned duties as singers, stage technicians, musical assistants, etc., according to their respective interests and talents.

Schools and Curricula

Resident instruction in the University is offered through Schools and Departments as indicated below. Regular curricula offered in the several Schools are also listed.

School of Agriculture, includes the Departments of Agricultural Economics, Agricultural Engineering, Agronomy and Soils, Animal Husbandry and Nutrition, Botany and Plant Pathology, Dairy Husbandry, Forestry, Horticulture, Poultry Husbandry, and Zoology and Entomology. Curricula offered are: *Agricultural Science, Agricultural Administration, Agricultural Engineering, Biological Sciences, Forestry, and Ornamental Horticulture*. Within each curriculum students are permitted to major in line with their special interests.

School of Air Science, includes the department of Air Science and offers training in Air Science.

School of Architecture and The Arts, includes the Departments of Architecture, Art, Building Technology, Dramatic Arts, and Music. Curricula offered are: *Architecture, Building Construction, Dramatic Arts, Interior Design, Art (options in Advertising Design, Industrial Design, Painting, Illustration and Fashion), and Music*.

School of Chemistry, includes the Departments of Chemistry, Chemical Engineering, and Laboratory Technology. Curricula offered are: *Chemistry, Chemical Engineering, and Laboratory Technology*.

School of Education, includes the Departments of Agricultural Education, Elementary Education, Secondary Education, Educational Administration, and Psychology. Curricula offered are: *Agricultural Education, Home Economics Education, Elementary Education, Secondary Education (majors in Art, Dramatic Arts, English, Health and Physical Education, Industrial Arts, Mathematics, Music, Science, Secretarial and Commercial Subjects, Speech, Speech Therapy, and Social Science), and Psychology*.

School of Engineering, includes the Departments of Aeronautical Engineering, Civil Engineering, Electrical Engineering, Engineering Graphics, Industrial Laboratories, Industrial Management, Mechanical Engineering, School of Textile Technology, and Auburn School of Aviation. This School offers curricula in *Aeronautical Administration, Aeronautical Engineering, Civil Engineering, Electrical Engineering, Engineering Physics, Mechanical Engineering, Industrial Management, Textile Chemistry, Textile Management, and Textile Science*.

School of Home Economics, includes the Departments of Clothing, Child Development, Foods and Nutrition, and House Administration. Curricula offered are: *Home Economics (majors in Clothing and Textiles, Foods and Nutrition, Home Management and Family Economics, Family Life and Early Childhood Education), and Nursing Science*.

School of Military Science and Tactics, includes the Department of Military Training and offers training in Military Science and Tactics.

School of Naval Science, includes the Department of Naval Science and offers training in Naval Science and Tactics.

School of Pharmacy, includes the Departments of Pharmacy, Pharmaceutical Chemistry, Pharmacology, Pharmacognosy, Pharmacy Administration, and offers a curriculum in *Pharmacy*.

School of Science and Literature, includes the Departments of Economics and Sociology, English and Journalism, Foreign Languages, History and Political Science, Mathematics, Philosophy, Physics, Religious Education, Speech, and Secretarial Training. Curricula offered are: *Science and Literature (majors in Liberal Arts Subjects)*, *Pre-Law, Business Administration, Secretarial Training, Physics, and Pre-Professional Science (Pre-Engineering, Pre-Medicine, Pre-Dentistry, and Pre-Veterinary Medicine)*.

School of Veterinary Medicine, includes the Departments of Anatomy and Histology, Bacteriology, Pathology and Parasitology, Physiology and Pharmacology, Surgery and Medicine, and offers a curriculum in *Veterinary Medicine*.

The Graduate School administers programs leading toward the Master's degree, the Doctor of Education degree, and the Doctor of Philosophy degree. (See Graduate School catalog.)

Department of Health and Physical Education, an independent department, offers physical education training required for men and women students and subject matter courses for students majoring or minoring in Physical and Health Education in the Schools of Education and Science and Literature.

School of Agriculture

E. V. SMITH, *Dean*

CHARLES F. SIMMONS, *Associate Dean*

COYT T. WILSON, *Assistant Dean*

THE SCHOOL OF AGRICULTURE offers courses designed to prepare both men and women for careers in the field of agriculture and related professions. The courses are so arranged as to provide a broad foundation in the basic sciences, a general knowledge of the applied sciences, and a reasonable number of cultural subjects. Most of the basic science courses are given in the freshman and sophomore years and serve as a basis for a better understanding of the applied or more practical subjects which are usually taken in the junior and senior years.

A curriculum is offered in Agricultural Science with majors in Agronomy and Soils, Animal Husbandry and Nutrition, Dairy Production, Dairy Manufacturing, Poultry Husbandry, Horticulture, and Agricultural Journalism. Other curricula are offered in Agricultural Administration, Agricultural Engineering, Forestry, Ornamental Horticulture, and Biological Sciences. Within these curricula majors are permitted in line with the student's special interest. If a student is permitted to major in a field where the courses are not prescribed in the catalog he should consult with the head of the department concerned.

The School of Agriculture also furnishes the subject matter training in Agriculture for the curriculum in Agricultural Education.

Credit will not be allowed for agricultural subjects taken at non-land-grant colleges unless the student passes validating examinations in such subjects after entering Auburn. Arrangements for these examinations must be made with the Dean of Agriculture in the first quarter of the student's enrollment in the School of Agriculture at Auburn and the examinations must be completed before the middle of the second quarter.

Curriculum in Agricultural Science (AG)

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
CH 103	Gen. Chemistry .....4	EH 101	English Comp. ....5	EH 102	English Comp. ....5
CH 103L	Gen. Chem. Lab. ..1	CH 104	Gen. Chemistry ....4	MH 112	Intr. College Math. 5
HY 107	American History ....5	CH 104L	Gen. Chem. Lab. ..1	ZY 102	Gen. Zoology .....5
MH 111	Intr. College Math. 5	ZY 101	Gen. Zoology .....5	MS	Military Training ...1
AS 101	Agr. Orientation ...0	MS	Military Training ...1	PE	Physical Education ..1
MS	Military Training ...1	PE	Physical Education ...1		
PE	Physical Education ...1				

SOPHOMORE YEAR

AH 200	Int. An. Husb. ....5	AS 202	Ag. Economics .....5	AH 204	Animal Nutrition ....5
BY 201	General Botany ....5	BY 202	General Botany ....5	AY 201	Grain Crops .....5
PS 204	Physics .....5	CH 205	Qual. Analysis .....5	HF 201	Orchard Mgt. ....5
MS	Military Training ...1	MS	Military Training ...1	MS	Military Training ...1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

JUNIOR YEAR

AN 301	Drainage & Ter. ....5	AY 304	General Soils .....5	AN 303	Farm Machinery and Equipment .....5
PH 301	General Poultry ....5	BY 306	Plant Physiology ....5	BY 309	Plant Diseases .....5
PS 305	Public Speaking ...3	DH 200	Fund. of Dairying ..5	HF 308	Vegetable Gard. ....5
JM 315	Agr. Journalism ....3		Elective .....3		Elective .....3
	Elective .....3				

SENIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AY 404	Cotton Production ..5	AS 301	Agr. Marketing .....5	AH 401	Swine Production .....5
FY 313	Farm Forestry .....5	AY 401	Forage Crops .....5	AS 401	Farm Management ..5
	Elective .....5		Elective .....5	ZY 402	Economic Ento. ....5
	Elective .....3		Elective .....3		Elective .....3

Total—211 quarter hours

Major in Agronomy and Soils

FRESHMAN YEAR

(Same as in Agricultural Science except Botany 201 will be substituted for Zoology 102)

SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AY 201	Grain Crops .....5	AH 204	Animal Nutrition .....5	AH 200	Introductory Animal Husbandry .....5
BY 202	General Botany .....5	CH 205	Qual. Analysis .....5	AY 304	General Soils .....5
CH 203	Organic Chem. ....5	PS 204	Physics .....5	DH 200	Fund. of Dairying ..5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

JUNIOR YEAR

AS 202	Agr. Economics .....5	AY 406	Com. Fertilizers .....3	AN 303	Farm Mach. & Equipment .....5
AN 301	Drainage & Terracing .....5	HF 308	Vegetable Gard. ....5	AY 306	Soil Morph. & Survey .....3
BY 306	Elementary Plant Physiology .....5	PH 301	General Poultry .....5	JM 315	Agr. Journalism .....3
	Elective .....3	SP 305	Public Speaking .....3		Elective .....8
			Elective .....3		

SENIOR YEAR

AS 401	Farm Management ..5	AY 401	Forage Crops .....5	AY 402	Soil Fertility .....5
AY 404	Cotton Prod. ....5	BY 309	Plant Diseases .....5	ZY 402	Economic Ento. ....5
FY 313	Farm Forestry .....5		Elective .....8	ZY 400	Genetics .....5
	Elective .....3				Elective .....3

Total—212 quarter hours

RECOMMENDED ELECTIVES

AH 401	Swine Production .....5	AY 454	Soil Genesis and Classification .....5
AH 402	Beef Cattle Production .....5	AY 455	Soil Physics .....5
AY 403	Grazing Crops in Alabama .....5	BY 401	Principles of Biometry .....5
AY 405	Turf and its Management .....3	BY 413	General Plant Ecology .....5
AY 409	Seed Production .....3	BY 415	Developmental Anatomy of Crop Plants .....5
AY 410	Methods of Plant Breeding .....3	CH 206	Quantitative Analysis .....5
AY 453	Geomorphology .....5		

Students planning to major in Agronomy and Soils should contact the Head of the Department and be assigned an advisor. Electives will be selected in consultation with their advisor in line with their interests and needs. Students desiring further training may plan their course of study so as to be prepared for graduate work at this or other institutions.

Major in Animal Husbandry & Nutrition

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AH 200	Intro. An. Husb. ....5	EH 101	English Comp. ....5	CH 205	Qual. Analysis .....5
CH 103	Gen. Chemistry .....4	CH 104	Gen. Chemistry .....4	EH 102	English Comp. ....5
CH 103L	Gen. Chem. Lab. ....1	CH 104L	Gen. Chem. Lab. ....1	ZY 101	Gen. Zoology .....5
MH 111	Intr. College Math. .5	MH 112	Intr. College Math. .5	MS	Military Training ....1
AS 101	Agr. Orientation ....0	MS	Military Training ....1	PE	Physical Education ..1
MS	Military Training ....1	PE	Physical Education ..1		
PE	Physical Education ..1				

SOPHOMORE YEAR

HY 206	American Govt. ....5	AH 301	Livestock Judging ....3	AH 204	Animal Nutrition .....5
PS 204	Physics .....5	BY 201	Gen. Botany .....5	AS 202	Agr. Economics .....5
ZY 102	Gen. Zoology .....5	CH 203	Organic Chemistry ..5	AY 201	Grain Crops .....5
MS	Military Training ....1	SP 305	Public Speaking .....3	MS	Military Training ....1
PE	Physical Education ..1	MS	Military Training ....1	PE	Physical Education ..1
		PE	Physical Education ..1		

JUNIOR YEAR**FIRST QUARTER**

AY 304	General Soils	5
DH 200	Fund. of Dairying	5
VM 420	Gen. Microbiology	5
	Elective	3

SECOND QUARTER

AH 302	Feeds & Feeding	3
AH 404	Mkt. Class & Grades	3
PH 301	Gen. Poultry	5
VM 421	Animal Physiology	5
	Elective	3

THIRD QUARTER

VM 422	Animal Diseases	5
ZY 400	Genetics	5
JM 315	Agr. Journalism	3
	Elective	5

SENIOR YEAR

AN 303	Farm Machinery & Equipment	5
AY 404	Cotton Production	5
ZY 402	Economic Ento.	5
	Elective	3

AH 403	Animal Breeding	5
AS 401	Farm Management	5
AY 401	Forage Crops	5
	Elective	3

AH 401	Swine Production	5
AH 402	Beef Cattle Prod.	5
AH 406	Reproduction in Farm Animals	5
	Elective	3

Total—212 quarter hours

Students desiring to major in Animal Husbandry and Nutrition should contact the Head of Department for assignment of an advisor. For majors in Animal Husbandry and Nutrition, who intend to do graduate work, it is recommended that Organic Chemistry 207 and 208 or 303 and 304 and Quantitative Analysis 206 be taken in substitution for Organic Chemistry 203 and two other courses to be selected with the advise of the major professor. As approved by the Dean of Agriculture and the student's advisor, substitutions may be permitted to meet specific needs of individual students.

Major in Dairy Manufacturing**FRESHMAN YEAR**

(Same as in Agricultural Science)

SOPHOMORE YEAR**FIRST QUARTER**

BY 201	General Botany	5
DH 200	Fund. of Dairying	5
PS 204	Physics or	
PS 205	Introd. Physics	5
LY 101	Use of the Library	1
MS	Military Training	1
PE	Physical Education	1

SECOND QUARTER

CH 205	Qual. Analysis	5
EC 213	Engineering Acctg. & Cost Control	5
JM 315	Agr. Journalism	3
SP 305	Public Speaking	3
MS	Military Training	1
PE	Physical Education	1

THIRD QUARTER

AS 202	Agr. Economics	5
CH 203	Organic Chem. or	
CH 207	Organic Chem.	5
EC 214	Engineering Acctg. & Cost Control	5
MS	Military Training	1
PE	Physical Education	1

JUNIOR YEAR

AH 204	Animal Nutrition	5
DH 305	Prac. Dairy Tests	5
VM 420	Gen. Microbiology	5
	Elective	3

DH 308	Dairy Bacteriology	5
DH 311	Judging Dairy Prod. 1	
	Elective	13

EH 345	Business & Professional Writing	5
DH 310	Technical Control of Dairy Products	5
DH 312	Judging Dairy Prod. 1	
	Elective	8

SENIOR YEAR

DH 408	Dairy Plant Proc.	5
DH 313	Judging Dairy Products	1
	Elective	13

DH 409	Dairy Plant Proc.	5
AN 406	Dairy Engineering	3
DH 411	Food Plant Sanitation	3
	Elective	8

DH 410	Dairy Plant Proc.	5
	Elective	13

Total—216 quarter hours

Of the 58 elective credits, at least 35 credits must be chosen from one of the categories listed below:

I. GENERAL AGRICULTURE

AH 200	Intro. Animal Husb.	5
AS 401	Farm Management	5
AS 301	Agricultural Mktg.	5
AY 201	Grain Crops	5
AY 304	General Soils	5
AY 401	Forage Crops	5
DH 314-315-316	Dairy Cattle Judging	3
DH 317	Dairy Cattle Feeding & Management	5
DH 403	Dairy Farm Prac.	5
PH 301	General Poultry	5

II. ECONOMICS

EC 331	Princ. of Mktg.	5
EC 333	Salesmanship	5
EC 341	Business Law	5
EC 345	Statistics	5
EC 404	Office Management	5
EC 432	Advertising	5
EC 442	Personnel Mgt.	5
EC 463	Corp. Finance	5
IM 306	Industrial Mgt.	5

III. BASIC SCIENCE*

BY 401	Biometry	5
CH 206	Quant. Analysis	5
CH 208	Organic Chemistry	5
CH 316	Physical Chemistry	5
CH 418	Biochemistry	5
CH 419	Biochemistry	5
CH 420	Biochemistry	5
PS 206	Intro. Physics	5
FL 151-152	German or	
FL 121-122	French	10

* Courses recommended for students planning to take graduate work.

All students majoring in dairy manufacturing shall have had at least one summer practical dairy plant experience before graduation.

Major in Dairy Production

FRESHMAN YEAR

(Same as in Agricultural Science)

SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
CH 205	Qual. Analysis .....5	AS 202	Agr. Economics .....5	AH 204	Animal Nutrition .....5
DH 200	Fund. of Dairying .....5	BY 201	General Botany .....5	AN 301	Drainage & Terracing .....5
PS 204	Physics .....5	CH 203	or 207 Organic Chemistry* .....5	AY 201	Grain Crops .....5
LY 101	Use of the Library .....1	MS	Military Training .....1	MS	Military Training .....1
MS	Military Training .....1	PE	Physical Education .....1	PE	Physical Education .....1
PE	Physical Education .....1				

JUNIOR YEAR

AY 304	General Soils .....5	AY 401	Forage Crops .....5	EH 345	Bus. & Prof. Writing .....5
VM 420	Gen. Microbiology .....5	DH 308	Dairy Bacteriology .....5	VM 422	Animal Disease Control .....5
SP 305	Public Speaking .....3	VM 421	Animal Physiology .....5	ZY 400	Genetics .....5
	Elective .....5	DH 314	Judging Dairy Cattle .....1	DH 315	Judging Dairy Cattle .....1
		JM 315	Agr. Journalism .....3		Elective .....3

SENIOR YEAR

AN 303	Farm Machinery & Equipment .....5	AH 403	Animal Breeding .....5	AS 401	Farm Management .....5
DH 408	Dairy Plant Proc. ....5	PH 301	General Poultry .....5	DH 403	Dairy Farm Prac. ....5
DH 316	Judging Dairy Cattle .....1	DH 402	Artificial Insemination .....3	ZY 402	Economic Ento. ....5
DH 317	Dairy Cattle Feeding & Management .....5		Elective** .....5		Elective .....3
	Elective .....3				

Total—214 quarter hours

* If anticipating graduate study, CH 207 is recommended, with CH 208 also being taken as an elective.

** If graduate study is planned, CH 206 Quantitative Analysis should be taken.

Major in Horticulture

FRESHMAN YEAR

(Same as in Agricultural Science except Botany 201 will be substituted for Zoology 102)

SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
BY 202	General Botany .....5	AS 202	Agr. Economics .....5	AH 204	Animal Nutrition .....5
HF 201	Orchard Mgt. ....5	CH 205	Qual. Analysis .....5	AN 303	Farm Machinery .....5
PS 204	Physics .....5	HF 224	Plant Propagation .....5	HF 221	Landscape Gardening .....5
MS	Military Training .....1	MS	Military Training .....1	MS	Military Training .....1
PE	Physical Education .....1	PE	Physical Education .....1	PE	Physical Education .....1

JUNIOR YEAR

AY 304	General Soils .....5	AS 301	Agr. Marketing .....5	AN 301	Drainage & Ter. ....5
PH 301	General Poultry .....5	BY 306	Plant Physiology .....5	AY 402	Soil Fertility .....5
SP 305	Public Speaking .....3	HF 308	Vegetable Gardening .....5	HF 407	Preparation and Handling of Fruits and Vegetables .....5
JM 315	Agr. Journalism .....3		Elective .....3		Elective .....3
	Elective .....3				

SENIOR YEAR

HF 401	Truck Crops .....5	BY 309	Plant Diseases .....5	HF 405	Small Fruits .....5
HF 323	Floriculture or .....5	HF 404	Fruit Growing .....5	ZY 402	Economic Ento. ....5
HF 406	Nut Culture .....5		Elective .....8		Elective .....8
	Elective .....8				

Total—211 quarter hours

APPROVED ELECTIVES

AH 200	Introductory Animal Husbandry .....5	EC 333	Salesmanship .....5
AS 401	Farm Management .....5	FY 313	Farm Forestry .....5
AS 404	Cooperation in Agriculture .....3	HF 225	Flower Arranging .....3
AY 201	Grain Crops .....5	HF 402	Plant Breeding .....5
AY 401	Forage Crops .....5	HF 421	Arboriculture .....5
AY 406	Commercial Fertilizer .....3	HF 423	Nursery Management .....5
CH 203	Organic Chemistry .....5	PG 310	Reading Improvement .....3
CH 206	Quantitative Analysis .....5	ST 113	Personal Typewriting .....3
CH 342	Geology .....3	ZY 400	Genetics .....5
DH 200	Fundamentals of Dairying .....5	ZY 406	Bee Culture .....5

Major in Poultry Husbandry

FRESHMAN YEAR

(Same as in Agricultural Science)

SOPHOMORE YEAR

FIRST QUARTER

AH 200	Intro. Ani. Husb. ....5
CH 205	Qual. Analysis .....5
PS 204	Physics .....5
MS	Military Training ....1
PE	Physical Education ...1

SECOND QUARTER

AS 202	Agr. Economics .....5
BY 201	General Botany .....5
CH 203	Organic Chemistry ...5
MS	Military Training ....1
PE	Physical Education ...1

THIRD QUARTER

AH 204	Animal Nutrition ....5
AY 201	Grain Crops .....5
PH 301	General Poultry ....5
MS	Military Training ....1
PE	Physical Education ...1

JUNIOR YEAR

AH 302	Feeds & Feeding ....3
DH 200	Fund. of Dairying ...5
PH 302	Poultry Meat Prod. 3
	Elective .....6

AN 306	Farm Bldg. Const. ...3
JM 315	Agr. Journalism ....3
PH 404	Poultry Mgt. ....5
SP 305	Public Speaking ....3
	Elective .....5

AY 304	General Soils .....5
PH 411	Poultry Marketing ...3
ZY 400	Genetics .....5
	Elective .....5

SENIOR YEAR

PH 405	Poultry Feeding ....3
ZY 301	Comp. Anatomy .....5
	Elective .....5
VM 420	Gen. Microbiology ...5

AS 401	Farm Management ...5
PH 408	Poultry Diseases ....5
PH 406	Inc. & Brooding ....3
	Elective .....5

AY 401	Forage Crops .....5
PH 410	Poultry Breeding ...3
ZY 402	Economic Entomol. 5
	Elective .....5

Total—210 quarter hours

RECOMMENDED ELECTIVES

AH 401	Swine Production .....5
AH 402	Beef Cattle Production .....5
AH 403	Animal Breeding .....5
AN 303	Farm Machinery & Equipment .....5
CH 206	Quantitative Analysis .....5

CH 301	Biochemistry .....5
HF 201	Orchard Management .....5
HF 308	Vegetable Gardening .....5
PH 407-409	Poultry Problems .....6
ZY 302	Vertebrate Embryology .....5

Agricultural Administration

The course in Agricultural Administration is designed both for those students who plan a career in businesses closely related to agriculture, and for those interested in the economics of agricultural production and marketing and in public policies affecting agriculture. The curriculum is administered through a faculty advisor system wherein individual student programs of study are developed in accordance with individual student needs and interests. The need for broad training, rather than narrow specialization, is emphasized.

The curriculum not only combines both business and technical agricultural courses, but through selection of electives it provides an opportunity for students to emphasize training in agri-business, in Agricultural Economics, or in selected production fields. The curriculum leads to a degree of Bachelor of Science in Agricultural Administration.

The demand for graduates who have both business and applied agricultural training is increasing. In both public and private agencies, increasing attention to rural economic and social problems points to enlarged opportunities for qualified workers in teaching, research, sales, public relations, services, administration, and private employment in these fields. By properly selecting electives, students may prepare themselves to become (1) owners or managers of firms that produce, process, or market agricultural products; (2) teachers, research workers, or educational workers in the field; (3) public servants in the capacity of farm management or marketing specialists, commodity analysts, market news reporters, inspectors, credit analysts, etc.; or (4) employees of business firms that handle agricultural products or that service agricultural production and marketing firms.

Curriculum in Agricultural Administration (AM)

FRESHMAN YEAR

FIRST QUARTER

EH 101	English Comp.	.....5
MH 111	Intr. College Math.	5
ZY 101	Gen. Zoology	.....5
AS 101	Agr. Orientation	.....0
MS	Military Training	.....1
PE	Physical Education	.....1

SECOND QUARTER

EH 102	English Comp.	.....5
MH 112	Intr. College Math.	5
CH 103	Gen. Chemistry	.....4
CH 103L	Gen. Chem. Lab.	.....1
LY 101	Use of Library	.....1
MS	Military Training	.....1
PE	Physical Education	.....1

THIRD QUARTER

BY 201	Gen. Botany	.....5
CH 104	Gen. Chemistry	.....4
CH 104L	Gen. Chem. Lab.	.....1
HY 107	American History	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

SOPHOMORE YEAR

AH 204	Animal Nutrition	.....5
AS 202	Agr. Economics	.....5
EC 211	Intr. Accounting	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

EC 212	Intr. Accounting	.....5
DH 200	Fund. of Dairying	.....5
PS 204	Physics	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

EC 341	Business Law	.....5
HY 206	American Gov't	.....5
PH 301	General Poultry	.....5
MS	Military Training	.....1
PE	Physical Education	.....1

JUNIOR YEAR

AH 303	Livestock Prod.	.....5
AY 307	General Soils	.....5
EC 360	Money & Banking	.....5
	Elective	.....3

AS 301	Agr. Marketing	.....5
SP 305	Public Speaking	.....3
SY 305	Rural Sociology	.....5
	Electives	.....6

AN 303	Farm Mach. & Eqp.	5
EC 345	Statistics	.....5
EH 345	Bus. & Prof. Writ.	.....5
	Elective	.....3

SENIOR YEAR

EC 446	Business Cycles	.....5
AS 410	Agr. Bus. Mgt.	.....3
	Electives	.....10

AY 401	Forage Crops	.....5
AS 403	Agr. Prices	.....3
FY 313	Farm Forestry	.....5
	Elective	.....5

AS 401	Farm Management	.....5
AS 405	Agr. Policy	.....3
	Electives	.....10

Total—212 quarter hours

RECOMMENDED ELECTIVES

Group 1

AH 302	Feeds & Feeding	.....3
AH 401	Swine Production	.....5
AH 402	Beef Cattle Prod.	.....5
AN 301	Drainage & Ter.	.....5
AN 305	Farm Trac. & Eng.	5
AY 201	Grain Crops	.....5
AY 404	Cotton Production	.....5
AY 406	Commercial Fert.	.....3
AY 407	Soil Management	.....5
HF 401	Truck Crops	.....5
HF 404	Fruit Growing	.....5
ZY 400	Genetics	.....5

Group 2

AS 404	Cooperation in Agr.	3
AS 302	Farm Records	.....3
AS 408	Agr. Financing	.....3
AS 409	Farm Appraisal	.....3
EC 332	Credits & Col.	.....5
EC 333	Salesmanship	.....5
EC 432	Advertising	.....5
EC 451	Intr. Ec. Theory	.....5
EC 463	Corp. Finance	.....5
EC 464	Investments	.....5
EC 465	Public Finance	.....5
EC 474	Adv. Statistics	.....5

Group 3

PA 301 or PA 304	Philosophy	.....3-5
PA 302 or PA 305	Ethics	.....3-5
PA 308	Intr. Logic	.....3
or		
PA 307	Scientific Rsn'g	.....5
PG 211	Gen. Psychology	.....5
PG 330	Social Psychology	.....5
PG 360	Applied Psychology	5
SY 201	Gen. Sociology	.....5
SY 311	Tech. & Soc. Chg.	.....3

Students desiring to major in Agricultural Administration should contact the Head of the Department of Agricultural Economics as early in their college careers as possible in order that they may be assigned to a faculty advisor. Electives will be selected in consultation with faculty advisors based on student needs and interests.

Agricultural Engineering

This is a technical field designed to train engineers in the agricultural fields. The curriculum includes courses basic to all types of engineering, courses with particular emphasis to engineering problems in agriculture, and general agricultural courses. The curriculum leads to a degree of Bachelor of Science in Agricultural Engineering. Students completing the curriculum have opportunities in many types of work where both engineering and agricultural knowledge are required.

The Agricultural Engineering curriculum is accredited by the Engineers' Council for Professional Development.

Curriculum in Agricultural Engineering (AN)

FRESHMAN YEAR

FIRST QUARTER

CH 103	Gen. Chemistry	.....4
CH 103L	Gen. Chem. Lab.	..1
EH 101	English Comp.	.....5
MH 111	Intr. College Math.	5
EG 102	Engr. Draw. I	.....2
AS 101	Agr. Orientation	.....0
MS	Military Training	.....1
PE	Physical Education	..1

SECOND QUARTER

CH 104	Gen. Chemistry	.....4
CH 104L	Gen. Chem. Lab.	..1
EH 102	English Comp.	.....5
MH 112	Intr. College Math.	5
EG 104	Des. Geometry	.....2
AN 101	Intr. Agr. Engr.	.....0
MS	Military Training	.....1
PE	Physical Education	..1

THIRD QUARTER

EH 108	Classical Lit.	.....5
HY 107	American History	.....5
MH 161	Anal. Geo. & Cal.	.....5
EG 105	Engr. Draw. II	.....2
AN 102	Intr. Agr. Engr.	.....0
MS	Military Training	.....1
PE	Physical Education	..1
	Hum. or Soc.	.....1
	Elective	.....1

SOPHOMORE YEAR

AN 201	Farm Machinery	.....5
MH 262	Anal. Geo. & Cal.	.....5
PS 201	Gen. Physics,	.....5
	Mechanics	.....5
CE 210	Engr. Surveying	.....3
MS	Military Training	.....1
PE	Physical Education	..1

EC 200	Gen. Economics or	.....5
AS 202	Agr. Economics	.....5
EG 204	Kinematics of	.....3
	Machines	.....3
MH 263	Anal. Geo. & Cal.	.....5
PS 202	Gen. Physics, Heat	.....5
	Sound & Light	.....5
MS	Military Training	.....1
PE	Physical Education	..1

ME 205	Applied Mechanics	.....5
MH 264	Anal. Geo. & Cal.	.....5
PS 203	Gen. Physics,	.....5
	Elec. Mag.	.....5
EG 205	Applied Graphic	.....2
	Statics	.....2
MS	Military Training	.....1
PE	Physical Education	..1

JUNIOR YEAR

CH 205	Qual. Analysis	.....5
EE 202	Elec. & Mag. Cir.	.....5
ME 306	Strength of Mat. I	.....5
	Agr. Elective	.....5

AN 302	Farm Bldgs. &	.....5
	Sanitation	.....5
ME 310	Thermodynamics	.....5
ME 320	Machine Design	.....5
	Agr. Elective	.....5

AN 304	Rural Elect.	.....5
AY 304	General Soils	.....5
EH 304	Technical Writing	.....3
ME 322	Machine Design	.....2
ME 434	Fluid Mech. and	.....5
	Heat Transfer	.....5

SENIOR YEAR

AN 403	Drainage & Terrace	.....5
	Design	.....5
AN 407	Farm Machinery	.....3
	Design and Testing	.....3
CE 406	Hydraulics Lab.	.....1
	Hum. or Soc.	.....6
	Elective	.....6
	Agr. Elective	.....5

AN 401	Farm Power	.....5
AN 404	Rural Engr.	.....5
	Agr. Elective	.....5
	Hum. or Soc.	.....5
	Elective	.....5

AN 405	Supplemental	.....5
	Irrigation	.....5
AN 408	Farm Power	.....3
	Design and Testing	.....3
	Agr. Elective	.....5
SP 305	Public Speaking	.....3
	Hum. or Soc.	.....3
	Elective	.....3

Total—236 quarter hours

ELECTIVES

Courses used for electives must be selected from the list of Humanistic-Social Studies below, subject to approval of the Department Head.

Six hours of Advanced R.O.T.C. may be substituted for SP 305 Public Speaking and EH 304 Technical Writing.

Requirements for the agricultural electives may be met by taking five hours from the following groups of courses: Group 1. AY 401 Forage Crops; AY 201 Grain Crops; AY 404 Cotton Prod.; AY 402 Soils and Soil Fertility; and ten hours from each of the following groups of courses: Group 2. FY 313 Farm Forestry; AS 401 Farm Mgt.; AS 301 Agr. Marketing; ZY 402 Eco. Entomology; and Group 3. AH 200 Intro. to Animal Husbandry; AH 303 Livestock Production; BY 201 General Botany; DH 200 Fundamentals of Dairying; PH 301 General Poultry.

APPROVED HUMANISTIC-SOCIAL ELECTIVES

HISTORY AND GOVERNMENT

HY 206	American Government	.....5
HY 314	American Colonial History	.....3
HY 315	International Organization	.....3
HY 322	The U.S. in World Affairs	.....3
HY 371	History of the West	.....3
HY 407	Political Science	.....5
HY 460	Great Leaders of History	.....3
HY 482	History of the South	.....3
HY	Current Events	.....1

LITERATURE

EH 208	Literature of the Western World	.....3
EH 320	An Introduction to Drama	.....3
EH 350	Shakespeare's Greatest Plays	.....3

EH 355	Masterpieces of World Literature	.....3
EH 365	Southern Literature	.....3
EH 381	The Literature of the Age of Reason	.....3
EH 385	The Impact of Science and Technology upon Modern Literature	.....3
SP 334	Great American Speeches	.....3

THE ARTS

AT 332	American Painting and Sculpture	.....3
AT 431	Contemporary Art	.....3
AR 360	Appreciation of Architecture	.....3
DR 313	Drama Appreciation I	.....3
DR 314	Drama Appreciation II	.....3
MU 351	Appreciation of Music	.....3
MU 352	Masterpieces of Music	.....3

ECONOMICS

EC 206 Socio-Economic Foundations of Contemporary America	3
EC 301 Geo-Political Basis of World Powers	3
EC 405 Cultural Geography of the World	5
EC 407 World Resources & Their Utilizations	5

SOCIOLOGY

SY 201 Introduction to Sociology	5
SY 204 Social Behavior	5
SY 307 The Court and Penal Administration	3
SY 311 Technology and Social Change	3

PHILOSOPHY AND RELIGION

PA 301 Introduction to Philosophy	3
PA 302 Introduction to Ethics	3
PA 303 Democracy and World Order	3
PA 307 Scientific Reasoning	5
PA 308 Introduction to Logic	3
RE 301 Religion and Modern Thought	3
RE 303 Christian Ethics	5
RE 305 Comparative Religion	3

PSYCHOLOGY

PG 211 General Psychology	5
PG 311 Behavior of Man	3
PG 461 Industrial Psychology	5

Curriculum in Ornamental Horticulture (OH)**FRESHMAN YEAR****FIRST QUARTER**

MH 111 Intr. College Math.	5
BY 201 General Botany	5
EH 101 English Comp.	5
AS 101 Agr. Orientation	0
MS Military Training	1
PE Physical Education	1

SECOND QUARTER

BY 202 General Botany	5
HF 101 Intro. to Orn. Hort.	1
EH 102 English Comp.	5
MH 112 Intr. College Math.	5
MS Military Training	1
PE Physical Education	1

THIRD QUARTER

CH 103 General Chemistry	4
CH 103L Gen. Chem. Lab.	1
HF 221 Landscape Gard.	5
ZY 101 General Zoology	5
MS Military Training	1
PE Physical Education	1

SOPHOMORE YEAR

CH 104 General Chemistry	4
CH 104L Gen. Chem. Lab.	1
HF 222 Plant Materials	5
HY 107 American History	5
MS Military Training	1
PE Physical Education	1

CH 205 Qual. Analysis	5
HF 223 Plant Materials	5
HF 224 Plant Propagation	5
MS Military Training	1
PE Physical Education	1

EC 200 Gen. Economics	5
HF 321 Plant Materials	5
SP 305 Public Speaking	3
JM 315 Agr. Journalism	3
MS Military Training	1
PE Physical Education	1

JUNIOR YEAR

BY 306 Plant Physiology	5
HF 323 Floriculture	5
ZY 400 Genetics*	5
Gen. Elective	3

AY 304 General Soils	5
BY 309 Plant Diseases	5
Tech. Elective	5
Gen. Elective	3

EC 211 Intro. Accounting	5
HF 322 Garden Mgt.	5
Tech. Elective	5
Gen. Elective	3

SENIOR YEAR

HF 424 Plant Composition	5
HF 429 Adv. Plt. Prop.	5
Tech. Elective	5
Gen. Elective	3

HF 426 Minor Problems	5
Tech. Elective	10
Gen. Elective	3

AY 402 Soil Fertility	5
ZY 402 Economic Ento.	5
Tech. Elective	5
Gen. Elective	3

* ZY 430 Principles of Heredity may be substituted for ZY 400.

Total—212 quarter hours

TECHNICAL ELECTIVES: Floriculture Field—HF 324 Floriculture, HF 402 Plant Breeding, HF 421 Arboriculture, HF 422 Floriculture, HF 423 Nursery Management, HF 425 Flower Shop, HF 427-8, Minor Problems, BY 406 Systematic Botany, AY 406 Commercial Fertilizers, EC 333 Salesmanship, EC 341 Business Law, EC 432 Advertising; Landscape Field—HF 325 Landscape Design I, HF 326 Landscape Design II, HF 327 Landscape Construction, HF 421 Arboriculture, HF 423 Nursery Management, HF 427-8 Minor Problems, BY 406 Systematic Botany, AN 301 Drainage and Terracing, AY 406 Commercial Fertilizers, EC 212 Introductory Accounting, EC 333 Salesmanship, EC 341 Business Law, EC 432 Advertising, EC 433 Retail Store Management, EC 434 Purchasing, EC 442 Personnel Management, AT 101 Freehand Drawing, AT 112 Perspectives, AT 141 Art Structures, AT 223 Water Colors, AT 317 Packaging; Nursery Field—HF 324 Floriculture, HF 421 Arboriculture, HF 422 Floriculture, HF 423 Nursery Management, HF 427-8 Minor Problems, HF 402 Plant Breeding, BY 406 Systematic Botany, AY 406 Commercial Fertilizers, AN 301 Drainage and Terracing, EC 333 Salesmanship, EC 341 Business Law, EC 432 Advertising; Flower Shop Field—HF 324 Floriculture, HF 422 Floriculture, HF 425 Flower Shop, HF 427-8 Minor Problems, AT 101 Freehand Drawing, AT 112 Perspectives, AT 141 Art Structures, AT 223 Water Colors, AT 317 Packaging, EC 212 Introductory Accounting, EC 333 Salesmanship, EC 341 Business Law, EC 432 Advertising, EC 433 Retail Store Management, EC 434 Purchasing, EC 442 Personnel Management, BY 406 Systematic Botany.

Forestry

Training in forest management and administration prepares the student as a land manager. He acquires professional knowledge and skills relating to

efficient production of wood as a raw material. He studies policies, techniques and procedures whereby land may be managed for related products and services including water, wildlife and recreation. There is a strong demand for foresters in private industry. Pulp companies, lumber and related industries hire the majority of graduates in the South. State and Federal agencies as well as consulting foresters employ a large number of graduates. The graduate may expect his initial assignments to include land line surveying, timber cruising, timber marking and land and timber purchasing. After experience is gained the graduate will assume more responsibility for land management plans and policies in his capacity as a land manager.

Wood technology is the science of making the most efficient use of the products of the tree. This includes the development of new products as well as more efficient production of standard products. The wood technologist must understand the physics and chemistry of wood as well as its anatomy and structure and must be familiar with various wood products and the methods for manufacturing them. The curriculum is sufficiently flexible that the student may specialize in chemistry, structural design, industrial management or in other fields of his choice by proper selection of his minors in these fields. The wood technologist finds employment with wood manufacturing industries and their suppliers as well as with private and public organizations which carry on research and product development for industry.

The Department of Forestry is accredited by the Society of American Foresters.

Curriculum in Forestry (FY)

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
BY 201	General Botany .....5	BY 202	General Botany .....5	BY 306	Elem. Plant
CH 103	General Chemistry ..4	CH 104	General Chemistry ..4		Physiology* .....5
CH 103L	Gen. Chem. Lab. ..1	CH 104L	Gen. Chem. Lab. ..1	CH 342	Geology* .....3
MH 111	Intr. College Math. 5	MH 112	Intr. College Math. 5	EH 101	English Comp. ....5
FY 102	Intro. to Forestry ....1	FY 103	Intro. to Forestry ....1	FY 104	Forest Cartography 2
AS 101	Agr. Orientation .....0	MS	Military Training ....1	MS	Military Training ....1
MS	Military Training ....1	PE	Physical Education ..1	PE	Physical Education ..1
PE	Physical Education ..1				

SOPHOMORE YEAR

CE 201	Surveying I .....5	AY 305	General Soils* .....5	EC 200	Gen. Economics or
EH 102	English Comp. ....5	EH 304	Tech. Writing .....3	AS 202	Agr. Economics .....5
PS 206	Intro. Physics .....5	PS 205	Intro. Physics .....5	FY 203	Silvics* .....5
FY 201	Dendrology .....3	FY 202	Dendrology .....3	FY 204	Mensuration .....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

* Students in the Wood Technology major will substitute MH 113, Analytic Geometry, for BY 306, and CH 205, Qualitative Analysis, for FY 203. In addition, they will substitute elective courses with corresponding hourly credit for CH 342 and AY 305.

Forest Management Major

JUNIOR SUMMER CAMP

FY 390	Field Mensuration ..5
FY 391	Forest Engineering ..5
FY 392	Forest Ecology .....3
FY 393	Ala. Forest Indust. ...3
FY 396	Forest Site
	Evaluation .....2

JUNIOR YEAR

FIRST QUARTER

EC 213	Engin. Acctg. & Cost Control	5
FY 301	Silviculture	5
FY 311	Wood Technology I Elective	5 3

SECOND QUARTER

FY 302	Forest Fire Control	3
SP 305	Public Speaking	3
FY 310	Adv. Mensuration	3
ZY 101	General Zoology	5
	Electives	6

THIRD QUARTER

BY 310	Forest Pathology	5
HY 206	American Govt.	5
FY 315	Seeding & Planting	3
FY 316	Forest Economics	3
	Elective	3

SENIOR YEAR

FY 427	Forest Valuation	5
FY 417	Photogrammetry	5
FY 434	Forest Policy	2
FY 408	Logging	3
	Elective	3

FY 407	Forest Mgt.	5
FY 414	Reg. Silviculture	3
FY 435	Forest Products Merch.	5
	Elective	5

FY 402	Range & Game Mgt.	5
FY 418	Adv. Forest Mgt.	3
FY 421	Forest Research	3
ZY 421	Forest Entomology	5
	Elective	3

Total—238 quarter hours

SUGGESTED ELECTIVES: AS 403 Agriculture Prices, AY 306 Soil Morphology and Survey, BY 406 Systematic Botany, CE 204 Surveying II, CH 205-6 Qualitative and Quantitative Analysis, EC 341 Business Law, EC 446 Business Cycles, FY 424 Cost Control and Integrated Utilization, FY 429 Forest Tree Nursery Management, MH 113 Analytic Geometry, PA 301 Introduction to Philosophy, PA 307 Introduction to Logic, PG 211 General Psychology, PG 310 Reading Improvement, SP 331 Advanced Public Speaking, SY 201 Introduction to Sociology.

Wood Technology Major

As part of the requirement for the degree with a major in wood technology, the student must complete at least 10 weeks of work experience in a forest products processing plant approved by the department head. A satisfactory report on this work must be submitted to the department head during the next quarter in residence at Auburn.

JUNIOR YEAR

FIRST QUARTER

CH 203	Organic Chemistry ..	5
EC 213	Eng. Acctg. & Cost Control	5
FY 311	Wood Technology I Elective	5 3

SECOND QUARTER

ZY 101	General Zoology	5
SP 305	Public Speaking	3
	Elective	10

THIRD QUARTER

HY 206	American Govt.	5
	Elective	13

SENIOR YEAR

FY 426	Wood Prod. & Mktg.	3
FY 425	Wood Glue & Lami.	5
	Electives	10

FY 430	Wood Technology II	5
FY 432	Seasoning & Pres.	5
FY 435	Forest Products Merch.	5
	Elective	3

FY 431	Wood Technology III	5
FY 421	Forest Research	3
FY 433	Seasoning & Preserving Lab.	2
	Elective	8

Total—216 quarter hours

NOTE: Sufficient latitude is allowed that the student may plan his elective work to fulfill his personal objectives while in college. Two minors will be required, however, outside the Department of Forestry, one of which must be in the School of Engineering or the School of Chemistry. Each minor shall consist of at least 20 quarter hours in a specialized field in courses numbered 200 or above. Prior to registration for the second quarter of the junior year the planned course content of the two minors must be approved by the department head. A student may always substitute a more intensive group of courses for one or more of the required courses provided the same breadth of coverage is maintained. Suggested Minors: Engineering Mechanics, Structural Engineering, Mathematics, Industrial Management, and Botany.

Curriculum in Biological Sciences (BI)

Major in Botany

FRESHMAN YEAR

(Same as in Agricultural Science)

SOPHOMORE YEAR

FIRST QUARTER

BY 201	General Botany	5
CH 205	Qual. Analysis	5
PS 205	Physics	5
MS	Military Training	1
PE	Physical Education ..	1

SECOND QUARTER

CH 203	Organic Chem. or CH 207 Organic Chem.	5
BY 202	General Botany	5
PS 206	Physics	5
MS	Military Training	1
PE	Physical Education ..	1

THIRD QUARTER

AS 202	Agricultural Eco. or EC 200 General Economics ..	5
BY 306	Elem. Plant Phys.	5
EH 390	Advanced Comp.	5
MS	Military Training	1
PE	Physical Education ..	1

JUNIOR YEAR

FIRST QUARTER

FL 121	French or	
FL 151	German	5
SP 305	Public Speaking	3
VM 420	Gen. Microbiology	5
	Elective	5

SECOND QUARTER

AY 304	General Soils	5
BY 309	Diseases of Plants	5
FL 122	French or	
FL 152	German	5
	Elective	3

THIRD QUARTER

BY 406	Systematic Botany	5
ZY 304	Gen. Entomology or	
ZY 402	Econ. Entomology	5
	Electives	8

SENIOR YEAR

ZY 400	Genetics	5
	Electives	13

AY 401	Forage Crops	5
	Electives	13

AY 402	Soil Fertility	5
	Electives	13

Total—210 quarter hours

Of the 55 elective hours, 35 must be chosen from the following lists, with 15 in botany courses. The remaining 20 may be chosen from other courses in these lists or from general electives.

BASIC SCIENCE

BY 310	Forest Path.	5
BY 401	Prin. of Biometry	5
BY 410	Aquatic Plants	5
BY 413	Gen. Plant Ecology	5
BY 415	Devel. Anatomy of	
	Crop Plants	5
BY 416	Plant Microtec-	
	nique	5
BY 420	Weed Idn. and	
	Control	5
BY 430	Nematode Diseases	
	of Plants	3
CH 206	Quan. Anal.	5
CH 208	Organic Chem.	5
CH 301	Biochemistry	5
MH 113	Anal. Geo.	5
MH 201	Calculus I	5
MH 202	Calculus II	5
PS 217	Astronomy	3
ZY 401	Invertebrate	
	Zoology	5
ZY 415	Limnology	5
ZY 416	Organic Evolution	3

GENERAL AGRICULTURE

AH 204	Animal Nutrition	5
AN 303	Farm Mach.	
	and Equip.	5
AS 301	Agri. Marketing	5
AY 201	Grain Crops	5
AY 404	Cotton Prod.	5
AY 405	Turf. & Its Mgt.	3
AY 406	Commercial Ferti-	
	lizers	3
AY 409	Seed Prod.	3
FY 313	Farm Forestry	5
HF 201	Orchard Mgt.	5
HF 308	Vegetable Garden-	
	ing	5
HF 421	Arboriculture	5

HUMANISTIC & SOCIAL SCIENCES

AT 332	Am. Painting and	
	Sculpture	3
AT 431	Contemporary Art	3
DR 313	Drama Apprec. I	3
DR 314	Drama Apprec. II	3
EC 206	Socio-Eco. Found.	
	of Contemp. Am.	3
EC 301	Geo-Political Basis	
	of World Powers	3
EC 405	Cultural Geo. of	
	the World	5
EH 310	World Study	3
EH 355	Masterpieces of	
	World Literature	3
EH 365	Southern Literature	3
EH 385	The Impact of Sci.	
	& Tech. upon	
	Modern Literature	3
HY 206	American Gov.	5
HY 322	The U.S. in World	
	Affairs	3
HY 407	Political Science	5
MU 351	Apprec. of Music	3
PA 301	Intro. to Philosophy	3
PA 302	Intro. to Ethics	3
PA 307	Scientific Reason.	5
PG 211	Gen. Psychology	5
RE 301	Religion and	
	Modern Thought	3

Students desiring to major in Botany should contact the Head of the Department as soon as possible in their college careers, so that they may be assigned to an advisor. Electives will be chosen after consultation with their advisors to fit their interest and needs.

Zoology Major

FRESHMAN YEAR

(Same as in Agricultural Science)

SOPHOMORE YEAR

FIRST QUARTER

BY 201	General Botany	5
CH 205	Qual. Analysis	5
PS 205	Physics	5
MS	Military Training	1
PE	Physical Education	1

SECOND QUARTER

BY 202	General Botany	5
CH 206	Quant. Analysis	5
PS 206	Physics	5
MS	Military Training	1
PE	Physical Education	1

THIRD QUARTER

2CH 203	Organic Chemistry	5
EC 200	Gen. Economics	5
EH 304	Tech. Writing	3
SP 305	Public Speaking	3
MS	Military Training	1
PE	Physical Education	1

JUNIOR YEAR

ZY 301	Comparative Anat.	5
ZY 311	Gen. Parasitology	5
ZY 308	Micrology	5
	Elective	3

ZY 302	Vertebrate	
	Embryology	5
ZY 424	Animal Physiology	5
	Electives	8

ZY 400	Genetics	5
ZY 409	Histology	5
	Electives	8

² CH 207 may be substituted.

SENIOR YEAR

FIRST QUARTER

BY 413	Gen. Plant Ecology	5
VM 420	Gen. Microbiology	5
ZY 420	Vertebrate Zool.	5
	Elective	3

SECOND QUARTER

ZY 304	Gen. Entomology	5
ZY 401	Invertebrate Zool.	5
	Electives	8

THIRD QUARTER

BY 406	Systematic Botany	5
ZY 415	Limnology	5
	Electives	8

Total—211 quarter hours

RECOMMENDED ELECTIVES

BY 401	Prin. of Biometry	5
CH 301	Biochemistry	5
CH 313-14	Phys. Chem.	10
CH 341	Geology	5
EC 102	Prin. of Geography	5

FL 121-2	French	10
FL 131-2	Spanish	10
FL 151-2	German	10
PA 301	Philosophy	5

ZY 205	Wildlife Cons.	3
ZY 206	Conserva. in U.S.	3
ZY 303	Medical Parasitol.	5
ZY 207	Birds	3
ZY 210	Fish Culture	5

Entomology Major

FRESHMAN YEAR

(Same as in Agricultural Science)

SOPHOMORE YEAR

FIRST QUARTER

BY 201	Botany	5
PS 204	Physics	5
ZY 304	Gen. Entomology	5
MS	Military Training	1
PE	Physical Education	1

SECOND QUARTER

BY 202	Botany	5
CH 205	Qual. Analysis	5
EH 304	Tech. Writing	3
SP 305	Public Speaking	3
MS	Military Training	1
PE	Physical Education	1

THIRD QUARTER

CH 206	Quant. Analysis	5
HF 221	Landscape Gard.	5
HF 308	Vegetable Gard.	5
MS	Military Training	1
PE	Physical Education	1

JUNIOR YEAR

CH 207	Organic Chemistry	5
ZY 301	Comp. Anatomy	5
	Electives	8

*AY 401	Forage Crops	5
BY 309	Plant Diseases	5
CH 208	Organic Chemistry	5
	Elective	3

AH 200	Intro. An. Husb.	5
ZY 402	Economic Ento.	5
ZY 406	Beekeeping	5
	Elective	3

SENIOR YEAR

AN 303	Farm Machinery	5
VM 420	Gen. Microbiology	5
ZY 311	Parasitology	5
	Electives	3

ZY 401	Invertebrate Zool.	5
ZY 410	Systematic Ento.	5
ZY 424	Animal Physiology	5
	Elective	3

BY 406	Sys. Botany	5
ZY 400	Genetics	5
ZY 404	Medical Entomology	5
	Elective	3

* Or AY 201 or AY 404.

Total—211 quarter hours

RECOMMENDED ELECTIVES

AN 301	Drainage & Ter.	5
AY 201	Grain Crops	5
AY 304	General Soils	5
AY 402	Soil Fertility	5
AY 404	Cotton Production	5
BY 401	Prin. of Biometry	5
CH 313-14	Phys. Chem.	10
CH 418-19-20	Biochem.	15

FY 313	Farm Forestry	5
FL 121-2	French	10
FL 131-2	Spanish	10
FL 151-2	German	10
HF 201	Orchard Mgt.	5
PH 301	General Poultry	5
ZY 301	Comparative Anat.	5
ZY 302	Vertebrate Embry.	5

ZY 206	Conserva. in U.S.	3
ZY 205	Wildlife Cons.	3
ZY 303	Medical Parasitol.	5
ZY 207	Birds	3
ZY 308	Micrology	5
ZY 210	Fish Culture	3
ZY 426	Game Mgt.	5

Fisheries Management Major¹

FRESHMAN YEAR

(Same as in Agricultural Science)

SOPHOMORE YEAR

FIRST QUARTER

BY 201	General Botany	5
MH 113	Analytic Geometry	5
PS 205	Physics	5
MS	Military Training	1
PE	Physical Education	1

SECOND QUARTER

BY 202	General Botany	5
CH 205	Qual. Analysis	5
PS 206	Physics	5
MS	Military Training	1
PE	Physical Education	1

THIRD QUARTER

CH 206	Quant. Analysis	5
BY 306	Elem. Plant	
	Physiology	5
EC 200	Gen. Economics	5
MS	Military Training	1
PE	Physical Education	1

¹ Students majoring in this field should arrange to spend at last two months with a state or federal agency on some phase of fisheries work before graduation, preferably during the summer following the junior year.

JUNIOR YEAR

SUMMER QUARTER

BY 410 Aquatic Plants	5
ZY 414 Aquatic Insects	5
ZY 304 General Ento.	5
Elective	3

FALL QUARTER

BY 413 Gen. Plant Ecology ..	5
ZY 301 Comp. Anatomy	5
ZY 311 Gen. Parasitology ..	5
Elective	3

WINTER QUARTER

CH 203 Organic Chemistry ..	5
ZY 424 Animal Physiology ..	5
ZY 428 Hatchery Mgt.	5
Elective	3

SENIOR YEAR

SPRING QUARTER

AY 304 Soils	5
ZY 415 Limnology	5
ZY 429 Pond Construction ..	5
Elective	3

FALL QUARTER

BY 401 Biometry	5
VM 420 Gen. Microbiology ..	5
ZY 413 Ecol. & Ident.	5
of Fishes	5
Elective	3

WINTER QUARTER

EH 304 Tech. Writing	3
SP 305 Public Speaking	3
ZY 401 Invertebrate Zool. ..	5
Electives	7

* The student's attention is called to the fact that these two subjects are offered only during the summer of even-numbered years.

Total—210 quarter hours

RECOMMENDED ELECTIVES

AN 401 Farm Power	5	FL 121-2 French	10	ZY 206 Cons. in U.S.	3
AY 402 Soil Fert.	5	FL 131-2 Spanish	10	ZY 400 Genetics	5
BY 406 Systematic Botany ..	5	FL 151-2 German	10	ZY 207 Birds	3
BY 306 Plant Physiology ..	5	IL 102 Welding Science ..		ZY 426 Game Mgt.	3
CH 301 Biochemistry	5	and Appl.	1	ZY 424 Animal Physiology ..	5
CH 313-14 Phys. Chem.	10	IL 103 Machine Tool Lab. ..	1	ZY 205 Wildlife Cons.	3
CH 342 Geology	3	EG 102 Engineering Dr. I ..	2	ZY 301 Comp. Anatomy ..	5
		MH 201 Calculus I	5	ZY 308 Micrology	5
		MH 202 Calculus II	5	ZY 409 Histology	5
		PA 301 Philosophy	3		

Game Management Major

FRESHMAN YEAR

(Same as in Agricultural Science)

SOPHOMORE YEAR

FIRST QUARTER

BY 201 General Botany	5
CH 205 Qual. Analysis	5
ZY 304 General Ento.	5
MS Military Training	1
PE Physical Education	1

SECOND QUARTER

BY 202 General Botany	5
CH 206 Quant. Analysis	5
EH 304 Tech. Writing	3
SP 305 Public Speaking	3
MS Military Training	1
PE Physical Education	1

THIRD QUARTER

AN 301 Drainage & Ter.	5
CH 203 Organic Chemistry ..	5
PS 204 General Physics	5
MS Military Training	1
PE Physical Education	1

JUNIOR YEAR

AY 304 General Soils	5
VM 420 Gen. Microbiology ..	5
ZY 420 Vertebrate Zool.	5
Elective	3

FY 313 Farm Forestry	5
ZY 301 Comparative Anat. ..	5
ZY 302 Vertebrate Embry. ..	5
Elective	3

SENIOR YEAR

BY 413 Ecology	5
ZY 426 Game Mgt.	5
ZY 311 Gen. Parasitology ..	5
Elective	3

ZY 308 Micrology	5
ZY 410 Systematic Ento.	5
ZY 424 Animal Physiology ..	5
Elective	3

BY 406 Systematic Botany ..	5
ZY 400 Genetics	5
Electives	8

¹ Or CH 207.

Total—211 quarter hours

RECOMMENDED ELECTIVES

AY 201 Grain Crops	5	EC 200 Gen. Economics	5	ZY 401 Invertebrate Zool. ..	5
AY 402 Soil Fert.	5	EG 102 Engineering Dr. I ..	2	ZY 207 Birds	3
BY 401 Prin. of Biometry ..	5	FL 121-2 French	10	ZY 210 Fish Culture	3
BY 306 Plant Physiology ..	5	FL 131-2 Spanish	10	ZY 413 Ecology & Ident.	5
BY 410 Aquatic Plants	5	FL 151-2 German	10	of Fishes	5
CH 301 Biochemistry	5	IL 103 Machine Tool Lab. ..	1	ZY 414 Aq. Insect Taxon. ..	5
CH 342 Geology	3	ZY 205 Wildlife Cons.	3	ZY 415 Limnology	5
EC 102 Prin. of Geog.	5	ZY 206 Cons. in U.S.	3		

School of Air Science

COLONEL S. L. CROSTHWAIT

Commandant and Professor of Air Science

THE AIR FORCE ROTC was instituted at Auburn University in the Fall of 1946 for the purpose of training AFROTC cadets who have the qualities and attributes essential to their progressive and continued development as officers in the reserve and regular Air Force.

The instruction is designed to provide the Air Force ROTC students with a knowledge and understanding of the characteristics and capabilities of Air Power; and the principal weapons, operational factors, and organizational units which the United States Air Force employs in accomplishing its functions.

The curriculum in Air Science is divided into two courses, basic and advanced. A description of these courses, requirements for entrance, etc., is outlined below.

Basic Course

The Air Force ROTC course of study pursued by the student normally during his freshman and sophomore academic years is commonly referred to as Basic AFROTC. Four hours of instruction are taken per week, two classroom periods and two leadership laboratory periods. One credit hour is allowed for each quarter of the basic course. Students physically qualified under standards prescribed by the Dept. of the Air Force and as determined by the College Physician, are eligible for admission to Air Force ROTC. Those who defer or fail any part of their Basic AFROTC training will be required to complete this training prior to graduation from the university.

Advanced Course

Advanced Air Force ROTC is a program designed to provide highly qualified junior officers for the United States Air Force. Enrollment in the Advanced Course is based upon such factors as leadership, qualification and desire for flying training, academic major, scholastic achievement, and physical qualifications. Successful completion of the Advanced Course qualifies the student for consideration of appointment as a Second Lieutenant in the USAF.

The Advanced Course consists of a six-quarter course, normally taken during the junior and senior years. Three credit hours are allowed for each quarter of the advanced course. For limitation on credit allowed toward meeting degree requirements, see engineering curricula. Six hours of instruction are taken per week, four classroom periods and two leadership laboratory periods. Students are paid at the rate of 90 cents per day while enrolled in the Advanced Course.

An advanced student selected for enrollment in Category I (Pilot) will be given 36½ hours of actual flying and 35 hours of ground instruction, which may qualify him for a private flying certificate.

An AFROTC summer training period of four weeks duration must be attended by the student before he becomes eligible for a commission. Summer training is normally attended during the summer between the junior and senior

years. Uniforms, quarters and rations are furnished by the government during the training period. The qualifications for the advanced course are:

1. United States Citizenship.
2. Be physically qualified in accordance with standards prescribed by the Department of the Air Force.
3. Not have reached 28 years of age at time of graduation and completion of the Advanced Course for an appointment as a Reserve of the Air Force in the grade of Second Lieutenant.
4. Students desiring to qualify for an Aeronautical rating in the USAF must not have reached 26½ years of age at time of graduation and completion of the Advanced Course for an appointment as a Reserve of the Air Force in the grade of Second Lieutenant, and accept an appointment to an Air Force Flight Training School (agree to make formal written application for flight training leading to a military aeronautical rating in the United States Air Force not less than 180 days before scheduled date of graduation).
5. Have at least two academic years to complete for graduation.
6. Be selected by the Professor of Air Science and the President of the institution.
7. Execute a written agreement with the government to complete the two-year Advanced Course training and to attend one summer camp (four weeks) duration preferably at the end of the first year of the Advanced Course. Upon completion of the course of instruction therein to accept an appointment as a Reserve of the Air Force in the grade of Second Lieutenant, if tendered, and agree to serve on active duty as a commissioned officer with the United States Air Force, on being ordered thereto by proper authority, for not less than three consecutive years, in the case of Category II and Category III cadets and not less than five consecutive years, in the case of Category I (Pilot) and Category IA (Navigator), unless sooner relieved of this obligation. (Veterans are exempt from this active duty requirement.)
8. Have completed appropriate basic training (2 years Basic AFROTC) or have equivalent credit in lieu thereof, and attain qualifying scores on required Air Force Officer Qualifying Tests as prescribed by the Department of the Air Force.

9. Veterans who desire to enroll in the Advanced Course, AFROTC, may on the basis of previous honorable active U.S. military service other than six-months active duty for training may request a waiver of the Basic Course, or portion thereof, as a requirement for entrance into the Advanced Course. If a student meets all other requirements he will be enrolled at the beginning of his junior year.

Uniforms and Equipment

Basic Student: Uniform commutation.

Advanced Students: Monetary allowance in lieu of uniforms.

All students are required to deposit the sum of \$30.00 with the Bursar of the University, prior to enrollment in the AFROTC. They are then furnished a uniform in good condition and other necessary supplies through the AFROTC Supply Office. Upon completion of the AFROTC Course of Instruction, or upon withdrawal of the student therefrom, the uniform and other supplies are turned in and the deposit returned to the student.

Advanced Air Force students are furnished regulation officer uniforms. These uniforms are purchased by the University which is in turn reimbursed by

the Government at a fixed rate. Upon graduation the regulation uniform becomes the property of the advanced student.

Distinguished AFROTC Cadets

The Professor of Air Science may designate as Distinguished AFROTC Cadet an individual who:

1. Possesses outstanding qualities of leadership, high moral character, and definite aptitude for the military service.

2. Has attained an academic standing in the upper 25 percent of his graduating class. An exception may be made only in the case of a Cadet whose standing is in the upper 10 percent of his class in military subjects.

3. Has demonstrated leadership ability through his achievements while participating in recognized campus activities.

4. Has sufficient standing in military subjects which, in conjunction with 1, 2, and 3 above, will warrant his designation as a Distinguished AFROTC Graduate.

Cadets designated as Distinguished AFROTC Cadets may make application for a direct commission in the Regular Air Force at the beginning of their 2nd year, Advanced Course, and if accepted they will be tendered a commission in the Regular Air Force.

Distinguished AFROTC Graduates

The Professor of Air Science may designate as a Distinguished AFROTC Graduate a Cadet who:

1. Was designated a Distinguished AFROTC Cadet and has maintained the required standards between the time and date of graduation.

2. Has completed Air Science IV and AFROTC Summer Training.

3. Has received a baccalaureate degree.

Universal Military Training and Service Act Deferments

Students enrolled in the AFROTC program may be deferred under the provisions of the Universal Military Training and Service Act, as follows:

1. Students so deferred are required to sign an AFROTC deferment agreement. The undergraduate provisions of the agreement require the student to complete the basic course, and to enroll in and complete the advanced course at the proper time, if accepted therefor; and upon completion or termination of the course of instruction therein, to accept a commission, if tendered.

2. This Department will notify the appropriate local Selective Service Board concerning students who have been selected for deferment. Students dropped from Air Force ROTC, failing to meet minimum scholastic requirements, or those not considered potential Advanced Course students will no longer be deferred.

3. Students who decline to fulfill the terms of their AFROTC deferment agreements pertaining to undergraduate work at the institution will be permanently suspended immediately.

School of Architecture and The Arts

SAMUEL THOMAS HURST, *Dean*

THE SCHOOL OF ARCHITECTURE AND THE ARTS is composed of the Departments of ARCHITECTURE, ART, BUILDING TECHNOLOGY, DRAMATIC ARTS and MUSIC. Undergraduate degree courses are offered in Architecture, Interior Design, Industrial Design, Applied Art, Building Construction, Dramatic Arts, and Music. Graduate degree courses are offered in Applied Art and Building Construction. The departments of Dramatic Arts and Music offer sound basic training courses in these fields for students wishing to elect a minor or major concentration in them.

Department of Architecture

The Department of Architecture was established in 1907, and is therefore the oldest in the South. Courses are offered leading to the degrees of Bachelor of Architecture and Bachelor of Interior Design.

Students are admitted upon approval by the Admissions Committee of the Department. Applicants whose academic records reveal the need for guidance tests will be required to report for testing and personal conference. Admission to the first year curriculum is made only in the Fall Quarter of each year and applications should be received by the Registrar prior to August 1.

Architecture

The curriculum in Architecture seeks to prepare the student to take his place as a citizen and as a professional among the practitioners of Alabama and the Southeastern region. Since the building industry is one of the three largest in the nation in terms of expenditure and employment, the architect today must accept a concern for the improvement of the physical environment and assume the leadership in evolving effective procedures toward this end. Therefore, in an era of broad technological advancement, the architect must bring to his work technical knowledge, social insight, creative imagination, and individual integrity.

The Department of Architecture is a member of the Association of Collegiate Schools of Architecture, and the curriculum in Architecture is accredited by the National Architectural Accrediting Board. Training at Auburn University prepares the student for the office experience and the examination required by the registration laws for the practice of architecture in Alabama as well as for examination by the National Council of Architectural Registration Boards.

Curriculum in Architecture (AR)

FIRST YEAR								
FIRST QUARTER			SECOND QUARTER			THIRD QUARTER		
AR 101	Basic Design	6	AR 102	Basic Design	6	AR 103	Basic Design	6
EH 101	English Comp.	5	EH 102	English Comp.	5	EH 108	Classical Literature	5
MH 111	Intr. College Math. 5		MH 112	Intr. College Math. 5		MH 113	Analytic Geometry ..	5
MS	Military Training	1	MS	Military Training	1	MS	Military Training	1
PE	Physical Education ..	1	PE	Physical Education ..	1	PE	Physical Education ..	1

SECOND YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AR 201	Arch. Design .....6	AR 202	Arch. Design .....6	AR 203	Arch. Design .....6
MH 201	Calculus I .....5	MH 202	Calculus II .....5	AR 233	Materials & Constr. 5
PS 205	Physics .....5	PS 206	Physics .....5	BT 220	Mech. of Structures 5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

THIRD YEAR

AR 301	Arch. Design .....5	AR 302	Arch. Design .....5	AR 303	Arch. Design .....5
AR 361	History & Theory of Architecture .....3	AR 362	History & Theory of Architecture .....3	AR 375	Planning .....5
BT 311	Structures I .....3	BT 312	Structures II .....3	AR 363	History & Theory of Architecture .....3
EC 200	General Economics ..5	AR 374	Planning .....2	BT 313	Structures III .....3
	Elective .....3	EC 206	Socio-Economic Foundations or Tech. & Soc. Change 3		Elective .....3
		SY 311	Elective .....3		

FOURTH YEAR

AR 401	Arch. Design .....5	AR 402	Arch. Design .....5	AR 403	Arch. Design .....5
AR 461	History & Theory of Architecture .....3	AR 462	History & Theory of Architecture .....3	AR 463	History & Theory of Architecture .....3
BT 411	Structures IV .....3	BT 412	Structures V .....3	BT 413	Structures VI .....3
PG 211	Psychology .....5	BT 452	Bldg. Equipment I ..3	BT 453	Bldg. Equipment II 3
	Elective .....3		Group Elective .....5	AR 423	Professional Practice 2
					Elective .....3

Summer Requirement: AR 490 Field Project (2 cr.) pre-requisite to AR 502.

FIFTH YEAR

AR 501	Arch. Design .....5	AR 502	Arch. Design .....5	AR 503	Arch. Design .....7
AR 521	Professional Practice 5	AR 512	Design Research ....2	BT 541	Bldg. Equip. III .....2
	Seminar .....2	AR 522	Professional Practice 5		Seminar .....5
	Group Elective .....5	AR 532	Materials & Finishes 2		Group Elective .....5
		AR 331	History Ptg. & Sculp. ....5		

Total—279 quarter hours

Five-hour elective courses will include either three courses in advanced structures or electives chosen from the group electives in Economics, English, Foreign Languages, History, Philosophy, Psychology, Sociology, and Speech.

Three-hour elective courses taken in lieu of Advanced ROTC will be chosen from the following: Art, Economics, English, History, Music, Philosophy, Religion, and Sociology.

Seminars will be chosen from the following list:

AR 558	Seminar in Contemporary Concepts .....5
AR 559	Seminar in Historical Problems .....5
AR 560	The Architect and Society .....2
AR 561	Seminar in Urban Design .....2

Honors Program In Architecture

Beginning in the fourth year of the curriculum in Architecture, superior students capable of independent study may be permitted on recommendation of the Committee on Honors Program to pursue an approved sequence of study designed to develop a field of concentration. Following nomination by the Committee, the student shall submit his plan of study for approval and shall embark upon the course during the second quarter. The Program shall comprise a total of 20 hours of credit in the chosen area of study, of which at least 5 hours shall be spent in independent study directed by the Committee. At least 15 hours of normally required elective credit shall be planned as related courses. Appropriate extra assignments in these courses shall be arranged by the Committee for students enrolled and a high level of performance shall be maintained in all work. At the option of the Committee a comprehensive examination appropriate to the study may be required.

Upon successful completion of the work the candidate shall be awarded the degree Bachelor of Architecture (Honors Program). A total of 281 hours is required for graduation under this Program.

Interior Design

The curriculum in Interior Design seeks to prepare the student to take his place as a professional specialist in the design of interior space. As such, he expects to assume a responsible role among those who shape physical environment. His primary interest in the development of interiors is concerned with the social, historical and technical implications of those aspects of space, surface and material which distinguish his work. His training will enable him to develop a practice as a private consultant, as a designer of furniture and textiles, and as a valuable associate of the architectural design team.

Curriculum in Interior Design (ID)

FIRST YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AR 101	Basic Design .....6	AR 102	Basic Design .....6	AR 103	Basic Design .....6
EH 101	English Comp. ....5	EH 102	English Comp. ....5	EH 108	Classical Literature 5
FL 121	Elem. French or FL 241	FL 122	Elem. French or FL 242	FL 221	Int. French or FL 341
FL 241	Elem. Italian .....5	FL 242	Elem. Italian .....5	FL 341	Int. Italian .....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

SECOND YEAR

AR 205	Interior Design .....6	AR 206	Interior Design .....6	AR 207	Interior Design .....6
AR 361	History & Theory of Architecture .....3	AR 362	History & Theory of Architecture .....3	AR 363	History & Theory of Architecture .....3
AR 215	Elements of I.D. ....2	AR 216	Elements of I.D. ....2	TT 220	Weaving & Design ..5
EC 200	Gen. Economics .....5	AR 233	Materials & Constr. 5	EH 381	Literature of the Age of Reason .....3
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

THIRD YEAR

AR 305	Interior Design .....5	AR 306	Interior Design .....5	AR 307	Interior Design .....5
AR 461	History & Theory of Architecture .....3	AR 462	History & Theory of Architecture .....3	AR 463	History & Theory of Architecture .....3
PG 211	Psychology .....5	AR 366	Period Interiors .....2	AR 367	Contemp. Interiors ..2
	Group Elective .....5	SY 311	Tech. & Soc. Ch. ....3	EC 331	Marketing .....5
			Group Elective .....5		General Elective .....3

Summer Requirement: AR 390 Field Project (2 cr.) pre-requisite to AR 407.

FOURTH YEAR

AR 405	Interior Design .....5	AR 406	Interior Design .....5	AR 407	Interior Design .....5
AR 441	Professional Practice 2	AR 442	Professional Practice 2	AR 435	Methods of I.D. ....5
	Group Elective .....5	AT 331	History of Painting & Sculpture .....5	AR 432	Materials & Finishes 2
	Group Elective .....5		Group Elective .....5		General Elective .....3

Total—214 quarter hours

Five-hour elective courses will be chosen from the group electives in Economics, English, Foreign Languages, History, Philosophy, Psychology, Sociology, and Speech.

During the third and fourth years adjustment will be made for those students taking ROTC.

GROUP ELECTIVES

For students in Architecture and Interior Design

*BT 521-2-3	Advanced Structures I-II-III	EC 323	Real Estate
*AR 559	Seminar in Historic Problems	*EC 341	Business Law
AT 103	Creative Drawing	EC 345	Statistics
AT 104	Basic Figure Drawing	*EC 357	Economic History of Europe
AT 221	Modeling	*EC 358	Economic History of the U. S.
AT 323	Advanced Water Color	EC 502	American Industries
*AT 325	Oil Painting	EC 442	Personnel Management
*EC 305	Geography of North America	EC 445	Industrial Relations

- *EC 452 Comparative Economic Systems
- *EC 460 Economic Development of the South
- EC 475 Economics of Public Utilities
- *EH 253-4 Literature in English
- *EH 352 Contemporary Fiction
- *EH 353 Contemporary Drama
- *EH 357-8 Survey of American Literature
- *EH 361 History of the English Drama
- EH 363-4 Eighteenth Century English Literature
- EH 371 The American Short Story
- EH 372 The American Novel
- *EH 390 Advanced Composition
- *EH 410 European Literature
- *EH 450 Contemporary Poetry
- EH 451-2 Shakespeare
- EH 457 Victorian Literature
- EH 459 Poetry and Prose of the Elizabethan Period
- EH 481-2 English Novel
- EH 491 American Poetry
- *FL 121-2 - 221 French
- *FL 131-2 - 231 Spanish
- *FL 241-2 - 341 Italian
- *FL 151-2-251 German
- HY 206 American Government
- *HY 209 American Government
- *HY 311 Medieval History
- *HY 312 Modern European History
- HP 313 Recent European History
- HY 314 American Colonial History
- *HY 404 Recent American History
- HY 406 The Civil War and Reconstruction
- *HY 407 Political Science
- HY 408 American Political Parties
- HY 451 The Far East
- HY 452 History of Latin America
- HY 460 Great Leaders of History
- HY 482 History of the South
- *PA 304 History and Principles of Philosophy
- *PA 305 Ethics
- *PA 306 Modern Thinkers
- *PA 307 Scientific Reasoning
- *PG 330 Social Psychology
- *SP 231 Essentials of Public Speaking
- *SY 201 Introductory Sociology
- *SY 301 Sociology of the Family
- SY 304 Race and Culture
- *SY 401 Population Problems
- SY 402 Social Theory
- *SY 403 Regional Sociology
- *SY 405 Urban Sociology
- SY 408 Industrial Sociology

* Approved electives for curriculum in Architecture.

Department of Building Technology

The Department of Building Technology offers courses concerned with the structural design of buildings, the design of mechanical and other equipment for buildings, the practical application of building materials, the estimation of building costs, methods of construction and field erection procedures. These courses lead to the degree of Bachelor of Building Construction.

Curriculum in Building Construction (BC)

FIRST YEAR		
FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
BT 104 Intro. to Building .5	EH 102 English Comp. ....5	MH 113 Analytic Geometry .5
EH 101 English Comp. ....5	MH 112 Intr. College Math. 5	PS 205 Physics .....5
MH 111 Intr. College Math. 5	EG 102 Engr. Drawing I ...2	EG 104 Descrip. Geom. ....2
MS Military Training ....1	Elective .....3	Elective .....3
PE Physical Education ...1	MS Military Training ....1	MS Military Training ....1
	PE Physical Education ...1	PE Physical Education ...1
SECOND YEAR		
EC 200 Gen. Economics .....5	BT 222 Building Constr. I .5	BT 223 Building Constr. II .5
MH 201 Diff. Calculus .....5	EC 213 Engr. Accounting ....5	BT 220 Mech. of Structures 5
PS 206 Physics .....5	MH 202 Integral Calculus ....5	EC 214 Cost Control .....5
IL 104 Sheet Metal	IL 101 Woodworking .....1	IL 102 Welding Sci.
Des. & Fab. ....1	MS Military Training ....1	& Appl. ....1
MS Military Training ....1	PE Physical Education ...1	MS Military Training ....1
PE Physical Education ...1		PE Physical Education ...1
THIRD YEAR		
BT 311 Structures I .....3	BT 312 Structures II .....3	BT 313 Structures III .....3
BT 367 History of Bldg. I ...2	BT 368 Hist. of Bldg. II ...2	BT 369 Hist. of Bldg. III ...2
CE 201 Surveying .....5	EC 323 Real Estate .....5	EC 445 Indus. Relations or
Group Elective .....5	Group Elective .....5	Labor Problems .....5
Adv. ROTC or	Adv. ROTC or	Group Elective .....5
Elective .....3	Elective .....3	Adv. ROTC or
		Elective .....3

FOURTH YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
BT 433	Constr. Methods & Estimating .....5	BT 422	Constr. Prob. II .....5	BT 490	Building Const. Thesis .....7
BT 421	Constr. Prob. I .....3	BT 412	Structures V .....3	BT 453	Bldg. Eqpt. II .....3
BT 411	Structures IV .....3	BT 452	Bldg. Equipment I .....3		Technical Elective .5
	Elective .....3		Group Elective .....5		Adv. ROTC or
	Adv. ROTC or		Adv. ROTC or		Elective .....3
	Elective .....3		Elective .....3		

Total—215 quarter hours

Normally, five-hour elective courses will be chosen from the group electives in Economics, English, Foreign Languages, History, Psychology, Sociology, Speech, and Town Planning.

Normally, three-hour elective courses taken in lieu of Advanced ROTC will be chosen from the following: Art, Economics, English, History, Music, Philosophy, and Religion.

GROUP ELECTIVES

For students in Building Construction

BT 521-2-3	Advanced Structures I-II-III	FL 131-2 - 231	Spanish
EC 305	Geography of North America	FL 241-2 - 341	Italian
EC 341	Business Law	FL 151-2 - 251	German
EC 345	Statistics	HY 206	American Government
EC 357	Economic History of Europe	HY 209	American Government
EC 358	Economic History of the U. S.	HY 311	Medieval History
EC 502	American Industries	HY 312	Modern European History
EC 442	Personnel Management	HY 313	Recent European History
EC 452	Comparative Economic Systems	HY 314	American Colonial History
EC 460	Economic Development of the South	HY 404	Recent American History
EC 475	Economics of Public Utilities	HY 406	The Civil War and Reconstruction
EH 253-4	Literature in English	HY 408	American Political Parties
EH 352	Contemporary Fiction	HY 451	The Far East
EH 353	Contemporary Drama	HY 452	History of Latin America
EH 357-8	Survey of American Literature	HY 460	Great Leaders of History
EH 361	History of the English Drama	HY 482	History of the South
EH 363-4	Eighteenth Century English Literature	PA 304	History and Principles of Philosophy
EH 371	The American Short Story	PA 305	Ethics
EH 372	The American Novel	PA 306	Modern Thinkers
EH 390	Advanced Composition	PG 211	General Psychology
EH 410	European Literature	PG 330	Social Psychology
EH 450	Contemporary Poetry	SY 201	Introductory Sociology
EH 451-2	Shakespeare	SP 231	Essentials of Public Speaking
EH 457	Victorian Literature	SY 301	Sociology of the Family
EH 459	Poetry and Prose of the Elizabethan Period	SY 304	Race and Culture
EH 481-2	English Novel	SY 401	Population Problems
EH 491	American Poetry	SY 402	Social Theory
FL 121-2 - 221	French	SY 403	Regional Sociology
		SY 405	Urban Sociology
		SY 408	Industrial Sociology

Students who desire to take a second degree in Civil Engineering after graduation in Building Construction can do so in a minimum of four quarters, by substituting in the Building Construction curriculum Physics 201, 202, 203 in place of Physics 205, 206; and by taking Route Surveying and Chemistry 101-101L, and 102-102L. By using electives and by carrying a one or two hour overload in some quarters, these substitutions and additions need not prolong the completion of the requirements for the Building Construction degree beyond the normal length of twelve quarters.

The additional training to be obtained from this extra work in Civil Engineering will provide strong supplementary skills for any member of the building industry.

Co-operative Program In Building Construction

The curriculum in Building Construction is also offered under the Cooperative Education Program. This plan affords opportunity for a student to combine his college program with practical experience in the building industry. After he is accepted in the Cooperative Program, a student spends alternate quarters between school and his industrial assignment, the latter provided

through the Director of the Cooperative Program. The senior year is spent in full time residence at Auburn.

Twelve quarters of residence are required for completion of the curriculum and fulfillment of requirements for the degree Bachelor of Building Construction. The Cooperative Program requires five years for completion and by the end of that time the student will have received almost two years of practical experience in addition to the college work of his normal four-year curriculum.

For further information see page 148.

Master of Building Construction

Students holding the degree of Bachelor of Building Construction are eligible to apply to the Dean of the Graduate School for admission to the graduate course leading to the degree of Master of Building Construction. The candidate must complete satisfactorily the following curriculum, or its equivalent, as approved by the Dean of the Graduate School, totaling 60 quarter hours.

CE 407 Municipal Engineering	5
EC 434 Purchasing	5
EC 447 Job Evaluation	5
BT 605-6-7 Graduate Research in Building	15
BT 621-2-3 Graduate Construction Design	15
CE 630 Advanced Stress Analysis	5
BT 699 Research and Thesis	10

Department of Art

Opportunities for professional careers in art are expanding constantly as business, industry and laymen become increasingly aware of the contribution which the artist makes to commerce as well as to daily living. This contribution is the effective employment of art principles in the designing of products for industry and commerce, and in the advertising and marketing media through which these products are presented to the consumer. In addition to the professional practice of design, new opportunities have arisen for various types of salesmanship, merchandising, promotion and contact work in which a collegiate art background is indicated.

The Department of Art believes that success in any specialized phase of art requires that the student be familiarized first with principles common to all two-dimensional and three-dimensional design. Thus, the various specialized curricula concentrate on similar fundamental courses during the first and second years. Upon this structure innate creative ability and basic technical skills are developed as rapidly as possible.

Five options are offered: Advertising Design, Painting, Illustration, Fashion Illustration and Industrial Design. All lead to the degree of Bachelor of Applied Art.

Students in the School of Education may elect a minor, major, or special major in Art (see page 135). Students in the School of Science and Literature may elect a minor (15 hours) or double minor (30 hours) in Art.

The Department of Art is a member of the National Association of Schools of Design, The National Art Education Association, and The College Art Association.

Advertising Design

This option is for the student who wishes to do creative work in advertising and related fields. The design principles of visual communication, as well as basic techniques of drawing for reproduction, lettering and typography, are

FOURTH YEAR

SECOND QUARTER

FIRST QUARTER	
AT 303	Life Drawing III .....5
AT 463	Fashion III .....5
HE 425	Hist. of Costume .....5
	Elective .....3

AT 464	Fashion IV .....5
EH 254	Lit. in English .....5
SY 201	Intro. Sociology .....5
	Elective .....3

THIRD QUARTER	
AT 495	Thesis .....5
	Elective .....5
	Elective .....5
	Elective .....3

Total—210 quarter hours

Illustration

This option is for the student who desires to become a pictorial illustrator of books and magazines. Throughout the course, weight is placed on interpretive and meaningful drawing, as well as on the student's sensitivity to design. Creative rather than factual illustration is emphasized.

Illustration Option (AT-IL)

FIRST YEAR

SECOND QUARTER

FIRST QUARTER	
AT 101	Freehand Drawing ..5
AT 141	Art Structure .....5
EH 101	English Comp. ....5
MS	Military Training ...1
PE	Physical Education ..1

AT 103	Creative Drawing ....5
AT 112	Perspective .....5
EH 102	English Comp. ....5
MS	Military Training ...1
PE	Physical Education ..1

THIRD QUARTER	
AT 104	Basic Figure Dwg. ..5
EH 253	Lit. in English .....5
HY 107	American History ....5
MS	Military Training ...1
PE	Physical Education ..1

SECOND YEAR

AT 201	Life Drawing I .....5
AT 241	General Design .....5
PG 211	Psychology .....5
MS	Military Training ...1
PE	Physical Education ..1

AT 221	Modeling .....5
AT 223	Water Color .....5
HY 208	World History .....5
MS	Military Training ...1
PE	Physical Education ..1

AT 302	Life Drawing II .....5
AT 323	Adv. Water Color ..5
EH 254	Lit. in English .....5
MS	Military Training ...1
PE	Physical Education ..1

THIRD YEAR

AT 303	Life Drawing III .....5
AT 325	Oil Painting .....5
AT 311	Lettering .....5
	Elective .....3

AT 326	Adv. Oil Painting ..5
AT 331	Hist. Ptg. & Sculp. .5
AT 355	Illustration I .....5
	Elective .....3

AT 304	Life Drawing IV .....5
AT 312	Graphic Processes ..5
AT 356	Illustration II .....5
	Elective .....3

FOURTH YEAR

AT 313	Adv. Layout .....5
AT 457	Illustration III .....5
EC 200	General Economics ..5
	Elective .....3

AT 425	Figure Painting I .....5
AT 458	Illustration IV .....5
SY 201	Intro. Sociology .....5
	Elective .....3

AT 495	Thesis .....5
	Elective .....5
	Elective .....5
	Elective .....3

Total—210 quarter hours

Industrial Design

In recent years, progressive manufacturers have discovered the indispensable advantage of marketing products that have been designed for maximum utility and attractiveness. This need has called forth the entirely new profession of Industrial Design. The Industrial Designer works with manufacturers as a specialist to produce a design which is fully developed before production starts, which takes advantage of the best in industrial materials and processes.

In all types of manufactured articles from fountain pens to automobiles and even the latest streamliners, the touch of the modern Industrial Designer is constantly seen today. Because these products are better adapted to their intended use and at the same time display attractive and expressive forms, the Industrial Designer through his imaginative and creative work makes a valuable contribution to the daily life of almost every citizen.

Industrial Design Option (AT-IN)

FIRST YEAR

SECOND QUARTER

FIRST QUARTER	
AT 101	Freehand Drawing ..5
EH 101	English Comp. ....5
MH 107	College Algebra .....5
MS	Military Training ...1
PE	Physical Education ..1

AT 112	Perspective .....5
AT 141	Art Structure .....5
EH 102	English Comp. ....5
MS	Military Training ...1
PE	Physical Education ..1

THIRD QUARTER	
AT 103	Creative Drawing ....5
AT 241	General Design .....5
MH 112	Intr. College Math. .5
MS	Military Training ...1
PE	Physical Education ..1

SECOND YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AT 271	Introduction to Industrial Design .....5	AT 223	Water Color .....5	AT 321	Adv. Modeling .....5
AT 104	Basic Figure Dwg. ....5	AT 221	Modeling .....5	AT 311	Lettering .....5
PS 204	Physics .....5	AT 216	Mat. & Processes .....5	HY 107	American History .....5
MS	Military Training ....1	MS	Military Training ....1	IL 101	Woodworking Shop 1
PE	Physical Education ...1	PE	Physical Education ...1	MS	Military Training ....1
				PE	Physical Education ...1
		THIRD YEAR			
AT 317	Packaging .....5	AT 331	Hist. Ptg. & Sculp. ....5	AT 373	Indus. Design III ....5
AT 371	Indus. Design I .....5	AT 372	Indus. Design II .....5	EC 331	Marketing Prin. ....5
HY 208	World History .....5	EC 200	General Economics ....5	EH 253	Lit. in English .....5
	Elective .....3		Elective .....3		Elective .....3
		FOURTH YEAR			
AT 471	Indus. Design IV ....5	AT 312	Graphic Processes .....5	AT 495	Thesis .....5
PG 211	Psychology .....5	AT 472	Indus. Design V .....5	SP 231	Essentials of Public Speaking .....5
	Elective .....5	EH 254	Lit. in English .....5		Elective .....5
	Elective .....3		Elective .....3		Elective .....3

Total—211 quarter hours

Painting

This option is for the student who wishes to become a professional painter. Emphasis is placed on the development of the interpretive and expressive powers of the student and the co-ordinating of these with technical proficiency in the various media.

Painting Option (AT-P)

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AT 101	Freehand Drawing ....5	AT 103	Creative Drawing .....5	AT 104	Basic Figure Dwg. ....5
AT 141	Art Structure .....5	AT 112	Perspective .....5	AT 221	Modeling .....5
EH 101	English Comp. ....5	EH 102	English Comp. ....5	HY 107	American History .....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ...1	PE	Physical Education ...1	PE	Physical Education ...1
		SECOND YEAR			
AT 201	Life Drawing I .....5	AT 223	Water Color .....5	AT 323	Adv. Water Color ....5
AT 241	General Design .....5	HY 208	World History .....5	AT 331	Hist. Ptg. & Sculp. ....5
EH 253	Lit. in English .....5	PG 211	Psychology .....5	AT 311	Lettering .....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ...1	PE	Physical Education ...1	PE	Physical Education ...1
		THIRD YEAR			
AT 325	Oil Painting .....5	AT 326	Adv. Oil Painting .....5	AT 425	Figure Painting I ....5
AT 302	Life Drawing II .....5	AT 303	Life Drawing III .....5	AT 304	Life Drawing IV .....5
EC 200	General Economics ....5	AT 312	Graphic Processes .....5	SY 201	Intro. Sociology .....5
	Elective .....3		Elective .....3		Elective .....3
		FOURTH YEAR			
AT 426	Figure Painting II ....5	AT 452	Pictorial Design II ....5	AT 495	Thesis .....5
AT 451	Pictorial Design I ....5	PG 360	Appl'd Psychology ....5		Art Elective .....5
EH 254	Lit. in English .....5		Elective .....5		Elective .....5
	Elective .....3		Elective .....3		Elective .....3

Total—210 quarter hours

Graduate Work in Art

Students who hold the degree of Bachelor of Applied Art, Fine Arts, or a similar degree, are eligible to apply to the Dean of the Graduate School for admission to the graduate course leading to the degree Master of Applied Art. For details examine the Bulletin of the Graduate School.

Department of Dramatic Arts

The courses in Dramatic Arts offer to those interested in the various aspects of the theatre a well-balanced combination of theoretical study and practical work in play production, acting, and stagecraft. Class work is closely associated

with the university dramatic group, the Auburn Players. Students in all courses with laboratory are expected to participate in the production of plays. Much attention is given to those who intend to direct dramatic work in schools and little theatres.

For the layman who desires an appreciative understanding of the theatre, the courses, Dramatic Production, Acting and Stage Techniques, Directing, Acting and Makeup, Stage Mechanics, Dramatic Theory, Drama Appreciation I and II, and the general course in theatre work, Dramatics, may be elected. Students from all schools are welcomed at the tryouts of the Auburn Players. For the student wishing to major in Dramatic Arts a full program of courses is offered leading to the Bachelor of Arts degree, with options in Directing and Stagecraft. Dramatic Arts may be taken as a major or minor in the School of Education, or as a minor in the School of Science and Literature. (For the major or minor programs in the School of Education and the minor program in the School of Science and Literature, see those sections of the catalog.)

Curriculum in Dramatic Arts (DR)

FIRST YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
DR 101	Dram. Production .5	DR 102	Acting and Stage Techniques .5	DR 201	Directing .5
EH 101	English Comp. .5			*FL221	Intern. French .5
*FL121	Elem. French .5	EH 102	English Comp. .5	PG 211	Psychology .5
MS	Military Training .1	*FL122	Elem. French .5	MS	Military Training .1
PE	Physical Education .1	MS	Military Training .1	PE	Physical Education .1
		PE	Physical Education .1		

* Another language may be substituted for French with the approval of the Department Head. If a student has already had some foreign language, he would normally be expected to continue with it until a reading knowledge is gained.

SECOND YEAR

DR 202	Acting & Make-Up .5	DR 203	Stage Mechanics .5	DR 204	Dramatic Theory .5
EH 253	Lit. in English .5	EH 254	Lit. in English .5	HY 208	World History .5
SP 229	Voice & Diction** .5	HY 207	World History .5	SY 201	Intro. Sociology .5
MS	Military Training .1	MS	Military Training .1	MS	Military Training .1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

** With this single exception, the first two years of work will be the same for all students in Dramatic Arts. In the Stagecraft Option, a substitution will be made for SP 229.

THIRD YEAR

DR 310	World Theatre .5	AT 331	Hist. Ptg. & Sc. .5	DR 312	World Theatre .5
EH 410	European Lit. .5	DR 311	World Theatre .5	EH 452	Shakespeare .5
MU 101	Fund. of Music .3	EH 451	Shakespeare .5	MU 354	Music History .3
	Elective .5	MU 353	Music History .3		Elective .5

FOURTH YEAR

DR 401	Adv. Directing .5	DR 402	Adv. Directing .5	DR 403	Adv. Directing .5
DR 413	Twentieth Century Theatre .5		Elective .5		Elective .5
	Elective .5		Elective .5		Elective .5
	General Elective .3		General Elective .3		General Elective .3

For Stagecraft Majors, DR 407-8-9 would replace DR 401-2-3.

Total—210 quarter hours

Department of Music

The Department of Music offers courses under specialists in Applied Music, Literature, Music Theory and Composition, and Interpretation.

For the student who wishes to acquire an intelligent understanding of music materials, and literature, the courses in Appreciation of Music, Masterpieces of Music, Fundamentals of Music, Theory and History of Music may be elected. Amateur players and singers are welcomed in the Glee Clubs, Choir, Bands, Orchestra, and Opera Workshop.

For the student wishing to major in Music, the Department of Music offers a full program of studies leading to the Bachelor of Arts degree. This curriculum offers areas of concentration in Applied Music, Music History and Literature, and Music Theory and Composition.

Curriculum in Music (MU)

FIRST QUARTER			FIRST YEAR			THIRD QUARTER		
			SECOND QUARTER					
EH 101	English Comp.	.....5	EH 102	English Comp.	.....5	FL	Foreign Language	.....5
FL	Foreign Language	.....5	FL	Foreign Language	.....5	HY 107	American History	.....5
MU 131	Music Theory I	.....3	MU 132	Music Theory II	.....3	MU 133	Music Theory III	.....3
MU 151	Survey of Mu. Lit.	.....1	MU 152	Survey of Mu. Lit.	.....1	MU 153	Survey of Mu. Lit.	.....1
MU	Applied	.....2	MU	Applied	.....2	MU	Applied	.....2
MS	Military Training	.....1	MS	Military Training	.....1	MS	Military Training	.....1
PE	Physical Education	.....1	PE	Physical Education	.....1	PE	Physical Education	.....1
			SECOND YEAR					
EH 253	English Lit.	.....5	EH 254	English Literature	.....5	EC 200	Gen. Economics	.....5
HY 207	World History	.....5	HY 208	World History	.....5	SY 201	Intro. Sociology	.....5
MU 231	Music Theory IV	.....3	MU 232	Music Theory V	.....3	MU 233	Music Theory VI	.....3
MU 251	Survey of Mu. Lit.	.....1	MU 252	Survey of Mu. Lit.	.....1	MU 253	Survey of Mu. Lit.	.....1
MU	Applied	.....2	MU	Applied	.....2	MU	Applied	.....2
MS	Military Training	.....1	MS	Military Training	.....1	MS	Military Training	.....1
PE	Physical Education	.....1	PE	Physical Education	.....1	PE	Physical Education	.....1

Theory and Composition Option

			THIRD YEAR					
MU 401	Counterpoint	.....5	MU 403	Modern Music	.....5	MU 465	Orchestration	.....5
PG 211	Gen. Psychology	.....5	MU 353	Music History I	.....3	MU 354	Music History II	.....3
	*Minor	.....5		*Minor	.....5		*Minor	.....5
	Elective	.....3		Elective	.....3		Elective	.....3
			FOURTH YEAR					
MU	Music Literature	.....5	**SC or MH	.....5		AT 331	Hist. Ptg. & Sculp.	.....5
	*Minor	.....5		*Minor	.....5		*Minor	.....5
MU 371	Music Comp. I	.....3	MU 372	Music Com. II	.....3	MU 373	Music Comp. III	.....3
	Elective	.....3		Elective	.....3		Elective	.....3
				Elective	.....2		Elective	.....2

History and Literature Option

			THIRD YEAR					
MU 401	Counterpoint	5	MU	Music Literature	5	MU	Music Literature	5
PG 211	Gen. Psychology	5	MU 353	Music History I.....	3	MU 354	Music History II	3
	*Minor	5		*Minor	5		*Minor	5
	Elective	3		Elective	3		Elective	3
			FOURTH YEAR					
MU	Music Literature	5	MU 361	Conducting	3	MU 451	The Symphony	3
MU 365	Arranging	3	*SC or MH	5	AT 331	Hist. Ptg. & Sculp. ..	5	
	*Minor	5		*Minor	5		*Minor	5
	Elective	3		Elective	3		Elective	3
				Elective	2		Elective	2

Applied Music Option

			THIRD YEAR					
MU	Major Instrument	....3	MU	Major Instrument	....3	MU	Major Instrument	....3
MU	Second Instrument	..1	MU	Second Instrument	..1	MU	Second Instrument	..1
PG 211	Gen. Psychology	....5	MU 353	Music History I	....3	MU 354	Music History II	....3
	*Minor	....5	MU 361	Conducting	....3	MU 451	The Symphony	....3
	Elective	....3		*Minor	....5		*Minor	....5
				Elective	....3		Elective	....3
			FOURTH YEAR					
MU	Applied Literature	..5	**SC, MH, or ED	....5	AT 331	Hist. Ptg. & Sculp.	..5	
	*Minor	....5		*Minor	....5		*Minor	....5
MU	Major Instrument	....3	MU	Major Instrument	....3	MU	Major Instrument	....3
MU	Second Instrument	..1		Elective	....3		Elective	....3
	Elective	....3						

Total—210 quarter hours

* Music majors will elect two minors or a double minor from approved subjects. Except for foreign language, subjects must be numbered 200 or above.

** One of the following courses must be selected: PS 204, BY 201, ZY 101, MH 107, MH 102; Applied Music Majors may select ED 495.

Supplementary Requirements for Degree

1. The music courses for the degree are divided into Lower and Upper Divisions. Majors must complete (a) 36 quarter hours of music in the Lower Division (18 hours of theory, 12 hours of applied music, and 6 hours of music literature); (b) a minimum of 35 hours of music in the Upper Division (determined by option).

2. A comprehensive examination will be given at the end of the sophomore year which must be passed before the student proceeds to the Upper Division music courses in the curriculum.

3. The student will select his major option according to his interests and the grade made on the sophomore comprehensive examination.

4. (a) Students concentrating in Applied Music are required to present a junior recital near the close of the third year, and a senior graduation recital during the last year of study.

(b) Students concentrating in Music History and Literature are required to write a thesis during the last year of study.

(c) Students concentrating in Music Theory are required to present an original composition in small form near the close of the third year and a composition in large form during the last year of study.

5. History and Literature and Theory Majors must complete sophomore NASM applied music standards. To meet these requirements additional applied music beyond the second year may be required.

6. Participation in the work of music performance groups is required each quarter without credit.

7. Attendance and performances at student convocations each Wednesday is compulsory.

Music Education

For the student wishing to become a teacher of Music, the Department of Music offers a full program of studies leading to the Bachelor of Science degree in the School of Education. Three areas of concentration are offered.

1. Instrumental Music. 2. Choral Music. 3. Public School Music. Courses for music majors include Music Theory, Literature History, Musicianship, Methods, and all grades of Applied Music. This program may be taken as a minor, as a major or composite major-minor by students in the School of Education. (See page 137.) Courses in elementary and secondary public school music are offered in the School of Education. These courses are included in the professional educational requirements of the major. (See curriculum for Music Minor in the Schools of Home Economics and Science and Literature.)

Program for Minor in Music

School of Education, see page 137

*MU 131-2-3 Music Theory, I-II-III	9
MU 353-4 Music History I-II	6
MU 361 Conducting	3
MU 365 Music Arranging	3
Applied Music (One area)	6

* Prerequisite for Music Theory I is MU 101-2, without credit for Music Majors or Minors. May be passed by examination (see major professor).

Supplementary Requirements for Music Minors

Minors in music are urged to participate in the work of the various performance groups (glee clubs, bands, or orchestra) on the campus.

Program for Major in Music

School of Education, see page 137

MU 131-2-3 Music Theory, I-II-III	9
MU 231-2-3 Music Theory IV-V-VI	9
MU 353-4 Music History I-II	6
MU 361 Conducting	3
MU 365 Music Arranging	3
MU 371-2 Music Composition I-II	6
Applied Music	9
	<hr/> 45

Program for Composite Major-Minor in Music

School of Education, see page 137

Major Requirements	45
Minor Area	27
	<hr/> 72

MINOR AREAS

INSTRUMENTAL		CHORAL		PUBLIC SCHOOL MUSIC	
MU 103	Piano class .....1	MU 362	Conducting II .....1	MU 362	Conducting II .....1
MU 115-6-7	Woodwind class 3	MU 432	Choral Literature ...5	MU 411	Public School Mus. .5
MU 112-3-4	Brass class .....3	MU 406	Organization of	MU 115-6	Woodwind class ...2
MU 118	Percussion class ...1		choral music .....5	MU 112-3	Brass class .....2
MU 409	Marching band		Concert Choir .....11	MU 118	Percussion class ...1
	techniques .....5		Piano or voice .....3		Concert choir .....11
MU 362	Conducting II .....1		Applied electives ...2		Applied electives ...2
	Band .....11				Piano or voice .....3
	Applied electives ...2				
	<hr/> 27		<hr/> 27		<hr/> 27

For required education and supplementary courses in related fields see School of Education, page 134.

Supplementary Requirements for Music Majors

1. Music Majors are required to participate in the work of music performance groups (glee clubs, bands, or orchestra).

2. Attendance and performances at student convocations each Wednesday is compulsory.

Music Organizations

The several musical organizations, sponsored by the college and directed by the Department of Music, provide excellent training in group music. See index under "Music Organizations." These activities, which are open to students of the university, may be taken without credit, or offered as general elective credit.

Graduate Work in Music

Students who hold a baccalaureate degree in Education with a Major in Music are eligible to apply to the Dean of the Graduate School for admission to the graduate courses leading to the degrees Master of Science and Master of Education with Major in Music. The candidate must complete satisfactorily the following curriculum totaling 45 quarter hours.

Education Foundation Courses	15
Music and Music Education Courses	30

School of Chemistry

CHARLES RICHARD SAUNDERS, *Dean*

THE SCHOOL OF CHEMISTRY offers four-year curricula leading to the degrees of Bachelor of Science in Chemistry, Chemical Engineering, and Laboratory Technology, and advanced work leading to the degrees Master of Science in Chemistry, and Chemical Engineering and to the degree Doctor of Philosophy. The administrative offices, the Emerson R. Miller Library, the auditorium, and the departments of chemistry and laboratory technology are located in the Ross Chemical Laboratory. The department of chemical engineering occupies approximately one-fourth of the Wilmore Engineering Laboratory. This laboratory is conveniently located with respect to the Ross Chemical Laboratory and provides modern and adequate facilities.

Department of Chemistry

The curriculum in chemistry meets the standards of the accrediting committee of the American Chemical Society. It affords preparation and training for students desiring to equip themselves for work in both pure and applied chemistry.

The curriculum offers training in the fundamentals of the science together with advanced courses in chemistry and physics. General electives are selected from fields especially for their cultural value. All electives must be approved by the dean.

Mathematics 101 and 107 must be satisfactorily completed before, or taken concurrently with, General Chemistry 101, 103, or 111.

Students enrolled in curricula which do not require mathematics must take remedial Algebra before taking General Chemistry provided their Freshman test score in mathematics is below the passing mark set for MH 107.

Curriculum in Chemistry (CH)

FRESHMAN YEAR		
FIRST QUARTER		THIRD QUARTER
CH 111 General Chemistry ..5	CH 112 General Chemistry ..5	CH 113 General Chemistry ..5
EH 101 English Comp. ....5	EH 102 English Comp. ....5	HY 107 American History ....5
MH 111 Intr. College Math. 5	MH 112 Intr. College Math. 5	MH 161 Analytic Geometry
*LY 101 Library Science .....1	MS Military Training ....1	& Calculus .....5
MS Military Training ....1	PE Physical Education ..1	MS Military Training ....1
PE Physical Education ..1		PE Physical Education ..1
SOPHOMORE YEAR		
CH 205 Qual. Analysis .....5	CH 206 Quant. Analysis .....5	CH 209 Adv. Quant. Anal. ..5
MH 262 Analytic Geometry	MH 263 Analytic Geometry	MH 264 Analytic Geometry
& Calculus .....5	& Calculus .....5	& Calculus .....5
PS 201 Physics-Mechanics ..5	PS 202 Physics-Heat,	PS 203 Physics-Elec.
MS Military Training ....1	Sound & Light .....5	& Magnetism .....5
PE Physical Education ..1	MS Military Training ....1	MS Military Training ....1
	PE Physical Education ..1	PE Physical Education ..1
JUNIOR YEAR		
HY 206 American Gov't .....5	CH 207 Organic Chemistry ..5	CH 208 Organic Chemistry ..5
CH 313 Physical Chemistry ..5	CH 314 Physical Chemistry ..5	CH 402 Physical Chemistry ..5
FL 151 Elem. German .....5	FL 152 Elem. German .....5	FL 251 Intermed. German ..5
General Elective .....3	General Elective .....3	General Elective .....3

* LY 101 Library Science may be scheduled in any quarter of the freshman year.

SENIOR YEAR

SECOND QUARTER

FIRST QUARTER

CH 305 Organic Chemistry	..5
CH 403 Chem. Thermo-dynamics	.....5
CH 410 Intern. Inorg. Chemistry	.....5
General Elective	.....3

CH 404 Organic Chemistry	..5
PS 304 Spectroscopy	.....5
EH 390 Adv. Composition	.....5
General Elective	.....3

THIRD QUARTER

CH 405 Organic Chemistry	..5
PS 305 Modern Physics	.....5
SP 231 Essentials of Public Speaking	.....5
General Elective	.....3

Total—211 quarter hours

Women students will take Hygiene in the freshman year and Current Events in the sophomore year in lieu of Military Training.

The following alternative curriculum may be selected by those students interested in the biological sciences.

Alternate Curriculum in Chemistry (CH)

FRESHMAN YEAR

FIRST QUARTER

CH 111 General Chemistry	..5
EH 101 English Comp.	.....5
MH 111 Intr. College Math.	5
*LY 101 Library Science	.....1
MS Military Training	.....1
PE Physical Education	.....1

SECOND QUARTER

CH 112 General Chemistry	..5
EH 102 English Comp.	.....5
MH 112 Intr. College Math.	5
MS Military Training	.....1
PE Physical Education	.....1

THIRD QUARTER

CH 113 General Chemistry	..5
CH 205 Qual. Analysis	.....5
MH 161 Analytic Geometry & Calculus	.....5
MS Military Training	.....1
PE Physical Education	.....1

SOPHOMORE YEAR

CH 206 Quant. Analysis	.....5
MH 262 Analytic Geometry & Calculus	.....5
ZY 101 General Zoology	.....5
MS Military Training	.....1
PE Physical Education	.....1

CH 207 Organic Chemistry	..5
MH 263 Analytic Geometry & Calculus	.....5
ZY 102 General Zoology	.....5
MS Military Training	.....1
PE Physical Education	.....1

CH 208 Organic Chemistry	..5
PS 201 Physics-Mechanics	..5
BY 201 General Botany	.....5
MS Military Training	.....1
PE Physical Education	.....1

JUNIOR YEAR

CH 313 Physical Chemistry	..5
FL 151 Elem. German	.....5
PS 202 Physics-Heat, Sound & Light	.....5
General Elective	.....3

CH 314 Physical Chemistry	..5
FL 152 Elem. German	.....5
PS 203 Physics-Elec. & Magnetism	.....5
General Elective	.....3

CH 402 Physical Chemistry	..5
HY 206 American Gov't or	
HY 107 American History	.....5
FL 251 Intermed. German	.....5
General Elective	.....3

SENIOR YEAR

CH 418 Biochemistry	.....5
VM 200 General Microbiology	.....5
EH 390 Adv. Composition	.....5
General Elective	.....3

CH 419 Biochemistry	.....5
VM 220 Human Anatomy & Physiology	.....5
SP 231 Essentials of Public Speaking	.....5
General Elective	.....3

CH 420 Biochemistry	.....5
VM 221 Human Anatomy & Physiology	.....5
Technical Elective	.....5
General Elective	.....3

Total—211 quarter hours

* LY 101 Library Science may be scheduled in any quarter of the freshman year.

Department of Chemical Engineering

The rapid growth of the chemical and metallurgical industries, particularly in the South, provides exceptional opportunities for students taking chemical engineering.

The work of the chemical engineer relates to the design, construction, and operation of plants for the production of numerous chemical and industrial products such as coke, cement, petroleum products, paper, synthetic rubber, synthetic fibers, ceramic products and glass.

The program leading to the bachelor's degree in chemical engineering consists almost entirely of broad scientific and engineering principles which have numerous applications in the chemical and related industries. Students who complete the requirements of the master's degree are qualified for better

positions and often make more rapid progress than those with only the bachelor's degree.

The broad university training provided, when supplemented by professional experience, enables graduates to qualify for positions as engineers in production, research and development, sales engineering, plant design, and management. Chemical engineers recently are being employed in increasing numbers in nuclear engineering.

The curriculum in chemical engineering is offered under both the regular and the co-operative plan. See the Co-operative Engineering Program on page 148.

For admission to the chemical engineering curriculum, students registered in the Curriculum in Pre-Chemical Engineering must complete all prescribed courses in mathematics with an average of 1:0.

Curriculum in Pre-Chemical Engineering (PCN)

FIRST YEAR		
FIRST QUARTER		THIRD QUARTER
CH 103 General Chemistry ..4	CH 104 General Chemistry ..4	CH 205 Qual. Analysis .....5
CH 103L Gen. Chem. Lab. ..1	CH 104L Gen. Chem. Lab. ..1	HY 107 American History ....5
EH 101 English Comp. ....5	EH 102 English Comp. ....5	MH 161 Analytic Geometry & Calculus .....5
MH 111 Intr. College Math. 5	MH 112 Intr. College Math. 5	EG 105 Engr. Drawing II ....2
EG 102 Eng. Drawing I ....2	EG 104 Desc. Geometry .....2	MS Military Training ....1
*LY 101 Use of the Library ..1	MS Military Training ....1	PE Physical Education ....1
MS Military Training ....1	PE Physical Education ....1	
PE Physical Education ....1		
SECOND YEAR		
SECOND QUARTER		
CH 206 Quant. Analysis .....5	MH 263 Analytic Geometry & Calculus .....5	CH 207 Organic Chemistry ..5
MH 262 Analytic Geometry & Calculus .....5	PS 202 Physics-Heat, Sound & Light .....5	MH 264 Analytic Geometry & Calculus .....5
PS 201 Physics-Mechanics ..5	ME 205 Applied Mechanics ..5	PS 203 Physics-Elec. & Magnetism .....5
EH 304 Technical Writing ..3	MS Military Training ....1	CN 201 Chem. Engr. Fundamentals .....2
MS Military Training ....1	PE Physical Education ....1	MS Military Training ....1
PE Physical Education ....1	Humanistic Elective 3	PE Physical Education ....1

* LY 101 Library Science may be scheduled in any quarter of the freshman year.

Curriculum in Chemical Engineering (CN)

THIRD YEAR		
SECOND QUARTER		THIRD QUARTER
CH 305 Organic Chemistry ..5	CH 314 Physical Chemistry ..5	PS 305 Introduction to Modern Physics .....5
CH 313 Physical Chemistry ..5	ME 306 Strength of Materials .....5	CN 324 Fluid Mechanics ....4
EC 200 General Economics 5	Humanistic Elective 3	CN 326 Heat Transfer .....5
CN 300 Process Calculations 3	Humanistic Elective or R.O.T.C. ....3	CN 321 Chemical Process Industries .....3
Humanistic Elective or R.O.T.C. ....3		Humanistic Elective or R.O.T.C. ....3
FOURTH YEAR		
CN 426 Engineering Metallurgy .....5	PS 302 Electronics .....5	CH 403 Chemical Thermo- dynamics .....5
CN 423 Unit Operations .....5	CN 424 Mass Transfer .....5	CN 437 Process Engineering 4
Humanistic Elective 6	CN 322 Organic Process Indus. & Kinetics ....3	CN 432 Instrumentation ....4
Humanistic Elective or R.O.T.C. ....3	Humanistic Elective 5	Humanistic Elective 3
	Humanistic Elective or R.O.T.C. ....3	Humanistic Elective or R.O.T.C. ....3
FIFTH YEAR		
CN 490 Applied Thermodynamics ....5		
CN 484 Chem. Engineering Plant Design .....4		
CN 430 Computer Principles 2		
CN 440 Nuclear Engineering or Technical Elective ..5		
Humanistic Elective 3		

Total—257 quarter hours

SUGGESTED GENERAL ELECTIVES

Courses used for electives must be selected from the following list of Approved Humanistic-Social Studies, subject to the approval of the Department Head.

EH 108 Classical Literature	5	PA 301 Introduction to Philosophy	3
EH 350 Shakespeare's Greatest Plays	3	PA 302 Introduction to Ethics	3
EH 365 Southern Literature	3	PA 303 Democracy and World Order	3
HY 322 U.S. in World Affairs	3	PA 306 Modern Thinkers	5
HY 460 Great Leaders	5	RE 308 Epistles of Paul	3
MU 351 Appreciation of Music	3	RE 309 Prophets of Israel	3
MU 352 Masterpieces of Music	3	SY 201 Introduction to Sociology	5

SUGGESTED TECHNICAL ELECTIVES

If CN 440, Nuclear Engineering is not taken as a technical elective, one of the following is suggested:

CH 402 Physical Chemistry	5	PS 405 Nuclear Physics	5
IM 402 Quality Control	5	PS 413 Atomic Structure of Crystals	5
IM 412 Engineering Economy	5		

Department of Laboratory Technology

This course is designed for men and women who wish to prepare themselves for clinical and other laboratory positions, such as public health, bacteriology, etc. With certain minor revisions, it can be used also to prepare for the study of medicine or dentistry.

The curriculum is planned for regular students to schedule courses during the Fall, Winter and Spring quarters only. Transfers or freshmen may enter the course at any quarter and use the Summer quarter to fit themselves to the regular program. All who complete the curriculum satisfactorily are eligible to receive the degree Bachelor of Science in Laboratory Technology.

The majority of the graduates enter the field of clinical medicine as medical technologists. They should plan to attain status as Registered Medical Technologists which is accomplished by interning for one year in an approved hospital and then passing the National Registry of Medical Technologists' written examination. If then desired, the additional Bachelor of Science degree in Medical Technology will be granted.

The four year academic curriculum is recommended. An alternative plan, however, is available for those who plan to become medical technologists and who do not obtain the degree Bachelor of Science in Laboratory Technology. This plan leads to the degree Bachelor of Science in Medical Technology only. To qualify, the student must take the first nine quarters of the curriculum, intern for one year in a hospital approved by the American Society of Clinical Pathologists and by the Dean of the School of Chemistry, and pass the course work in the hospital and the National Registry examination.

Curriculum in Laboratory Technology (LT)

FRESHMAN YEAR**FIRST QUARTER****SECOND QUARTER****THIRD QUARTER**

CH 103 General Chemistry ..4	CH 104 General Chemistry ..4	CH 205 Qual. Analysis	5
CH 103L Gen. Chem. Lab. ..1	CH 104L Gen. Chem. Lab. ..1	EH 102 English Comp.	5
MH 111 Intr. College Math. 5	EH 101 English Comp.	MH 112 Intr. College Math. 5	
ZY 101 General Zoology	ZY 102 General Zoology	PW 113 Hygiene	1
PW 111 Hygiene	PW 112 Hygiene	PW Physical Education ..1	
PW Physical Education ..1	PW Physical Education ..1		
*LY 101 Library Science			

* LY 101 Library Science may be scheduled in any quarter of the Freshman year.

SOPHOMORE YEAR

FIRST QUARTER

CH 206	Quant. Analysis	5
EH 141	Med. Vocabulary	5
PS 205	Physics-Mechanics and Heat	5
HY 205	Current Events	1
PW	Physical Education ..	1

SECOND QUARTER

CH 207	Organic Chemistry ..	5
PS 206	Physics-Elec., Sound & Light	5
VM 220	Human Anatomy & Physiology	5
HY 205	Current Events	1
PW	Physical Education ..	1

THIRD QUARTER

CH 208	Organic Chemistry ..	5
VM 200	General Micro- biology	5
VM 221	Human Anatomy & Physiology	5
HY 205	Current Events	1
PW	Physical Education ..	1

JUNIOR YEAR

CH 418	Biochemistry	5
LT 301	Hematology	5
VM 204	Pathogenic Micro- biology	5
	Elective	3

CH 419	Biochemistry	5
LT 305	Serology	5
ZY 303	Medical Parasitology	5
	Elective	3

CH 420	Biochemistry	5
HY 107	American History ..	5
LT 401	Adv. Hematology ..	5
	Elective	3

SENIOR YEAR

EH 345	Business & Pro- fessional Writing	5
LT 421	Diagnostic Apparatus	5
ZY 308	Micrology	5
LT 402	Seminar	3

SP 231	Essentials of Public Speaking	5
PY 304	Public Health	5
	Group Elective	5
	Elective	3

LT 405	Adv. Serology	5
LT 422	Hospital Lab. Practice	5
ZY 409	Histology	5
	Elective	3

Total—211 quarter hours

RECOMMENDED ELECTIVES

BY 201	General Botany	5
BY 202	General Botany	5
EC 102	Principles of Geography	5
EC 211	Introductory Accounting	5
EC 212	Introductory Accounting	5
FL 121	Elementary French	5
FL 122	Elementary French	5

FL 151	Elementary German	5
FL 152	Elementary German	5
PG 211	General Psychology	5
ST 111	Personal Typewriting	5
SY 201	Introductory Sociology	5
SY 301	Sociology of the Family	5
ZY 400	Genetics	5

School of Education

TRUMAN M. PIERCE, *Dean*

THE SCHOOL OF EDUCATION provides professional education for service in the fields of teaching, supervision, administration, and psychology. Recognizing school service as a profession with various lines of activity, the School of Education has set up a number of specialized curricula as preparation for the various fields of service in public education.

Certificates to Teach

The School of Education is approved by the State Board of Education for various types of educational service to the schools of Alabama. Upon completion of the prescribed courses of study the various types and classes of teachers' certificates will be issued by the State Department of Education. These include certificates for superintendents, supervisors, principals, guidance personnel, elementary and secondary teachers.

Students in other areas of the university may want to take courses in education and psychology for the purpose of acquiring knowledge and understanding regarding human growth and development, the history and purposes of education in America, and teaching as a profession. They are encouraged to take such courses, and are eligible to take all courses for which they satisfy prerequisites except the internship in student teaching.

For detailed requirements for the various Professional, Non-Professional, Emergency Professional, and Trades and Industries Certificates consult the Alabama State Department of Education Bulletin 1953, No. 7, in the Dean's office.

College students who do not take the full program of requirements for a Professional certificate may qualify for a Non-Professional certificate as set out in the above State Bulletin. This certificate is valid for one year only. This certificate cannot be continued or reinstated.

Secondary Education

Liberal Arts Subjects — In the preparation of high school teachers for the liberal arts subjects, recognition is given to the need for specialization in at least two teaching fields. Accordingly, majors and minors are provided in the several curricula. See page 135.

Vocational and Special Fields. — In certain technical fields, curricula are more highly prescribed. These fields are vocational agriculture, vocational home economics, industrial arts, physical and health education, and commercial education.

Graduate Study for the Class A and AA Certificates — Appropriate programs of graduate study are offered for Class A and AA certificates. These programs make provisions for classroom teachers, administrators, supervisors, and curriculum and guidance personnel.

Graduate Degrees in Education

Graduate programs for the Master's Degree and the Doctorate in Education (Ed. D.) are offered by the School of Education. For information consult the Graduate Bulletin.

Library Materials in Education

The professional library for teachers is housed in the general library. Carefully selected publications include important recent contributions in Education. They constitute a satisfactory working library for reference and research. The Materials Center, Room 226 Thach Hall, includes an extensive collection of materials and textbooks for the use of teachers, supervisors and administrators. In addition, a library of audio-visual material is available.

Student Teaching Program and Student Observation Program

An arrangement between Auburn University and the Lee County Board of Education makes it possible for students in Education to participate in supervised observation in the Auburn schools. This work is done in connection with work being taken in the School of Education.

Through arrangements made between Auburn University and various boards of education it is possible for students in Education to do their student teaching in off-campus centers under the direction of qualified supervising teachers working in close cooperation with college supervisors.

College personnel participating in the Student Teaching Programs include Dr. John T. Lovell, Director, and staff members in agricultural education, elementary education, and secondary education.

Student Personnel

Placement of 1958-1959 Graduates — Student personnel services in the School of Education provide contacts between Education graduates and employing school officials.

	<i>Total</i>	<i>Per Cent</i>
Total Graduates	381	
Married and Graduate Students ..	50	
In Armed Services	12	
	62	
Non-Employables	62	
Total Employables	319	100.0
Placed in Teaching Fields	267	83.7
In Alabama	169 (63.3%)	
In Other States	98 (36.7%)	
Placed in Related Fields	16	5.0
Otherwise Employed	28	8.8
Total Employed	311	97.5
Not Reported or Not Placed	8	2.5

Field Services — Research studies are conducted on problems relevant to Alabama and the region. Studies by the faculty are continuously in progress. Completed studies are available, on request, to school officials and teachers.

The members of the faculty of the School of Education are available to school administrators and teachers for conferences and advisory services on such problems as: surveys of plant and administrative organization; transportation problems; school policies; supervisory plans and practices; curriculum and teaching; schedule and program making; evaluation programs; testing and interpreting test results; teaching materials, their organization and enrichment; community surveys and use of local resources; study of pupil personnel, guidance, and adapted instruction.

Education Interpretation Service

Head: Paul Irvine

Writer: Thomas J. Norman

Artist: Joseph Quinn

This is a special service devoted to better communication through the printed page. It aids public agencies and schools in improving their publications, publicity, and educational materials. It also provides readability analyses of textbooks, editorial services, and publication facilities.

In-Service Agricultural Education and Supervision

Supervisor: Thurston L. Faulkner

*Assistant Supervisors: Homer F. Gibson, Hubert R. Culver, Ben P. Dilworth,
Howard W. Green, Lewis L. Sellers, and Homer N. Lewis*

Executive Secretary FFA: Byron Rawls

In cooperation with the State Department of Education, the School of Education maintains an in-service teacher education and supervisory division. This service extends to 345 departments of vocational agriculture in accredited high schools of the state, and to more than 25 teachers of veterans.

Vocational Rehabilitation Service

Frank W. Jenkins, District Supervisor

Hoyt J. Roberts, District Counsellor

The State Department of Education in cooperation with Auburn University maintains the local Rehabilitation Service for the purpose of providing vocational guidance, counseling, training and placement services to citizens who are handicapped. The Rehabilitation Service also makes available to its handicapped citizens such services as: surgical and/or medical care, hospitalization, therapeutic treatment and artificial appliances when these services are essential to training and/or employment and the individual is not financially able to secure them.

PROFESSIONAL CURRICULA FOR PREPARATION OF TEACHERS

Students who intend to teach should register in the School of Education their freshman year. However, students from other divisions of the University and students from other colleges may transfer to the School of Education at a later time. Graduates from two-year curricula of state colleges regularly enter the junior year.

Early registration in the School of Education clarifies the student's plans and strengthens his preparation for teaching. He should plan his program in conference with his adviser by the beginning of his sophomore year.

Curriculum for the Professional Preparation of Elementary School Teachers

FRESHMAN YEAR

ED 102-3-4 Orientation	3
EH 101-2 English Composition	10
BY 201 General Botany, or	
ZY 101 General Zoology	5
BY 202 General Botany, or	
ZY 102 General Zoology	5
EC 102 Principles of Geography	5
HY 107 American History	5
PG 213 Growth and Development of	
School-Age Children	5
PW 110 Hygiene	3
Physical Education*	3
Approved Electives in	
Subject Matter	7

SOPHOMORE YEAR

PG 214 Educational Psychology	5
ED 200 Foundations	6
EH 253-254 Literature in English	10
MH 181 Fund. Math. I	5
SY 201 Intro. to Sociology	5
HY 207 World History	5
ED 329 Health and Physical Education	
for the Elementary Teacher	4
Physical Education*	3
Approved Electives in	
Subject Matter	8

JUNIOR YEAR

HY 208 World History	5
HY 206 American Government	5
ED 300 Principles and Practices	
in Education	6
ED 370 Arithmetic for the	
Elementary Teacher	5
ED 371 Language Arts for the	
Elementary Teacher	5
ED 395 Music for the Elementary Teacher	5
AT 342 Elementary School Art	5
ED 372 Science for the Elementary Teacher	5
Approved Electives in	
Subject Matter	13

SENIOR YEAR

An Approved Physical Science	5
HY 481 History of Alabama	5
ED 472 Books and Related Materials	
for Children	4
ED 421 Social Learnings in the	
Elementary School	4
ED 490 Evaluation, Pupil Growth and	
Selected Topics	3
ED 480 Student Teaching in	
Elementary School	15
SP 431 Principles of Speech Correction	5
Approved Electives	13

NOTE: A student could emphasize a special area such as industrial arts, health and physical education, speech therapy, speech, music, art, and dramatic arts by carefully planning not more than 27 elective hours in that field. In library science a student would take 18 hours. In psychology a student would take 30 hours.

* Men students also take Military Science for three hours credit in each of the freshman and sophomore year. Advanced R.O.T.C. may be scheduled within elective hours.

Curricula for the Professional Preparation of Secondary School Teachers

The undergraduate curriculum for secondary teachers consists of the following groups of courses: I. General Education; II. Professional Education; III. Student Teaching Internship; IV. Major and Minor Requirements; and V. Electives. The minimum number of quarter hours required for the bachelor's degree in Secondary Education is 215 hours.

Generally speaking, general education, professional education, and the teaching internship represent constants for all students enrolled in Secondary Education. The minimum hours required for the major and minor vary with the different major-minor combinations. The number of electives within and outside the defined scope of the different programs also constitutes a variable.

The Department of Secondary Education provides a program of offerings which enables students to select a major and minor from thirteen subject-matter areas; the major and minor to be in different subject areas. Subject-matter areas included in the program are: art, business education, dramatic arts, English, health and physical education, home economics education, languages, mathematics, music, science, social science, speech, and speech therapy. In addition to the major-minor combinations listed, provisions are made for students to earn a second minor of 30 hours in psychology when the major and minor combinations are selected from English, social science, and/or

science. With few exceptions, any student may concentrate his electives and earn a minimum of 20 hours in psychology.

It will be observed that recommendations have been made for major-minor combinations. These recommendations are based upon general knowledge of teaching assignments in secondary schools and some evidence of the inter-relatedness among the respective subject-matter areas.

The Dean reserves the privilege of making acceptable substitutions in course requirements, provided such modifications do not conflict with state requirements or college regulations as to degrees in Education.

I. General Education

	Hours		Hours
ED 102-3-4 Orientation	3	PG 213 Growth and Development of	
ED 200 Foundations	6	School Age Children	5
EH 101-2 English Composition	10	PG 214 Educational Psychology	5
EH 253-54 Literature in English	10	Social Science—History, Political	
MH 181 Fundamental Mathematics I.		Science, Sociology and Economics ..	20
or equivalent	5	Science—Biological and Physical ..	20
MS Military Training	6		
PE or PW Physical Education	6		

II. Required Courses in Professional Education

	Hours		Hours
ED 300 Principles and Practices		Program in Secondary School, or	
in Education	6	Program in the Secondary and	
Teaching in Secondary		Elementary School (Major	
School, or Teaching in the		Field)	3
Secondary & Elementary		Program in Secondary School, or	
School (Major Field)	3	Program in the Secondary and	
Teaching in Secondary		Elementary School (Minor	
School, or Teaching in the		Field)	3
Secondary & Elementary		ED 490 Evaluation, Pupil Growth and	
School (Minor Field)	3	Selected Topics	3

III. Student Teaching Internship 10 or 15 Hours

This program is designed to provide the regular student with a student teaching internship of one quarter in an off-campus school situation. Fifteen quarter hours credit is granted for the satisfactory completion of the internship period. Only irregular cases will be approved for students to live on campus and participate in either the ten or fifteen hour program. The person with one or more years of teaching experience may take the summer laboratory program in student teaching for credit of ten quarter hours. Any student completing only ten hours in the student teaching internship program will be required to complete an additional five quarter hours in some other professional education course.

IV. Major and Minor Requirements

ART	AT	Approved Elective	5
			35
Minors: 30 or 35 Hours		Majors: 40 or 55 Hours	
AT 101 Freehand Drawing		Minor Requirements	30
AT 103 Creative Drawing		AT 325 Oil Painting	5
AT 141 Art Structure, or		AT Approved Elective	5
AT 142 Elementary School Art			40
AT 223 Water Color		AT Approved Electives	15
AT 331 History Ptg. & Sculpture			55
AT 241 General Design			
	30		

BUSINESS EDUCATION**Minors: 30 or 35 Hours**

ST 101 Secretarial Science I	5
ST 102 Secretarial Science II	5
EC 211-12 Introductory Accounting	10
EC 103 Econ. Geography or	
EC 102 Prins. of Geography	5
EC 200 Gen. Economics	5
	30

ST 203 Sect. Science III	5
	35

Majors: 45 or 55 Hours

Minor Requirements	35
ST 302 Office Machines & Filing	5
EC Approved Elective	5
	45
ST 204 Sect. Science IV	5
EC Approved Elective	5
	55

DRAMATIC ARTS**Minors: 31 or 36 Hours**

DR 101 Dramatic Production	5
DR 102 Acting & Stage Techniques	5
DR 201 Directing	5
DR 202 Acting & Make-up	5
DR 203 Stage Mechanics	5
DR 313 Drama Appreciation I	3
DR 314 Drama Appreciation II	3
	31

DR Approved Elective	5
	36

Majors: 41 or 53 Hours

Minor Requirements	31
DR 204 Dramatic Theory	5
DR 413 20th Century Theatre	5
	41

Major requirements	
(41 less DR 313—3)	38
DR 310 World Theatre	5
DR 311 World Theatre	5
DR 312 World Theatre	5
	53

ENGLISH**Minors: 30, 35, or 40 Hours**

EH 101-2 English Composition	10
EH 253-4 English Literature	10
Approved Electives from	
800-400 English Courses	10
	30

Approved Elective	5
	35

Approved Elective	5
	40

Majors: 50 or 55 Hours

Minor Requirements	30
EH 401 Advanced English Grammar	5
EH 390 Advanced Composition, or	
EH 441 Intro. Study of	
English Language	5
EH 451 Shakespeare, or	
EH 452 Shakespeare	5
EH 357 Survey of American Literature, or	
EH 358 Survey of American Literature	5
	50
Approved Electives	5
	55

**HEALTH AND PHYSICAL EDUCATION
(Men)****Minors: 35 Hours**

PE 201 Intro. to Physical Education	5
PE 202 Basketball	5
PE 206 Football	5
PE 212 Elementary Physical Education	5
PE 401 Organization & Administration	
of Physical Education	5
PE 404 Athletic Injuries & First Aid	5
VM 220 Anatomy and Physiology	5
	35

Majors: 55 Hours

Minor Requirements	35
PE 303 Baseball	2
PE 304 Track & Field	3
PE 301 Recreation Leadership	5
VM 221 Anatomy and Physiology	5
Approved Activity Courses	5
	55

**HEALTH AND PHYSICAL EDUCATION
(Women)****Minors: 35 Hours**

PE 201 Intro. to Physical Education	5
PE 212 Elementary Physical Education	5
PE 214 Physiology of Exercise	5
PW 311 Conduct of Rhythmical Activities	5
PW 312-13 Theory & Conduct of Sports	10
VM 220 Anatomy and Physiology	5
	35

Majors: 60 Hours

Minor Requirements	35
PW 314 Theory & Conduct of Sports	5
PE 301 Recreation Leadership	5
PE 401 Organization & Administration	
of Physical Education	5
VM 221 Anatomy and Physiology	5
Approved Activity Courses	5
	60

MATHEMATICS**Minors: 30, 35, or 40 Hours**

MH 111-112 Intro. College Mathematics	10
MH 108 Math. of Finance	
or	
MH 127 Elementary Math. Statistics	5
MH 251 Analytic Geom. & Calculus I	5
MH 252 Analytic Geom. & Calculus II	5
MH 351 Finite Math. I	5

30

MH 352 Finite Math. II	5
------------------------	---

35

MH 481 College Geom. I	5
------------------------	---

40

Majors: 45 or 50 Hours

Minor Requirements	40
MH 127 Elementary Math. Statistics, or	
Approved Elective when student	
completed MH 127 in the	
minor requirement	5

45

Approved Elective	5
-------------------	---

50

MODERN LANGUAGES**Spanish****Minor: 30 Hours**

FL 131 Elementary Spanish	5
FL 132 Elementary Spanish	5
FL 231 Intermediate Spanish	5
FL 232 Intermediate Spanish	5
FL 331 Advanced Spanish	5
FL 332 Advanced Spanish	5

30

Major: 40 Hours

Minor Requirements	30
FL 431 History of Spanish Lit.	5
FL 432 History of Spanish Languages	5

40

German**Minor: 30 Hours**

FL 151 Elementary German	5
FL 152 Elementary German	5
FL 251 Intermediate German	5
FL 252 Intermediate German	5
FL 351 Advanced German	5
FL 352 Advanced German	5

30

Major: 40 Hours

Minor Requirements	30
FL 451 History of German Literature	5
FL 452 History of German Language	5

40

French**Minor: 30 Hours**

FL 121 Elementary French	5
FL 122 Elementary French	5
FL 221 Intermediate French	5
FL 222 Intermediate French	5
FL 321 Advanced French	5
FL 322 Advanced French	5

30

Major: 40 Hours

Minor Requirements	30
FL 421 History of French Literature	5
FL 422 History of French Language	5

40

MUSIC**Minor: 27 Hours**

MU 131-2-3 Music Theory I, II, III	9
MU 353-4 Music History I, II	6
MU 365 Arranging	3
MU 361 Conducting	3
Applied Music	6
(one area)	

27

Major: 45 Hours

Minor Requirements	27
MU 231-2-3 Music Theory IV, V, VI	9
MU 371-2 Music Composition I, II	6
Applied Music	3

45

Composite**Major-Minor: 72 Hours**

Major Requirements	45
One Minor Area	27

72

Minor Areas:**A. Instrumental: 27 Hours**

MU 103 Piano Class	1
MU 115-6-7 Woodwind Class	3
MU 112-3-4 Brass Class	3
MU 118 Percussion Class	1
MU 409 Marching Band Techniques	5
MU 362 Conducting II	1
Band	11
Applied Electives	2

27

B. Choral: 27 Hours

MU 362 Conducting II	1
MU 432 Choral Literature	5
MU 406 Organization of Choral Music	5
Concert Choir	11
Piano or voice	3
Applied Electives	2

27

C. Public School Music: 27 Hours

MU 362 Conducting II	1
MU 411 Public School Music	5
Concert Choir or Band	11
MU 115-6 Woodwind Class	2
MU 112-3 Brass Class	2
MU 118 Percussion Class	1
Piano or voice	3
Applied Electives	2

27

SCIENCE**Minors: 30*, 35, 40 or 45 Hours**

Three five-hour courses selected from	
PS 205 Introductory Physics,	
PS 206 Introductory Physics,	
ED 473 Gen. Sci. for Teachers,	
CH 103 General Chemistry &	
CH 104 General Chemistry	15
Three five-hour courses selected from	
ZY 101 General Zoology,	
ZY 102 General Zoology,	
BY 201 General Botany &	
BY 202 General Botany	15
	<hr/>
	30

One course in biological or physical science selected from above listing	
	5
	<hr/>
	35

One additional course selected from above listing to provide 20 hours in biological science and 20 hours in physical science	
	5
	<hr/>
	40
Approved Elective	
	5
	<hr/>
	45

Majors: 50 or 55 Hours

Minor Requirements	40
Approved Electives	10
	<hr/>
	50
Approved Elective	
	5
	<hr/>
	55

* Majors in Home Economics Education are required to take CH 103 and CH 104 for 10 hours of the requirement in physical science. They will substitute VM 210 and VM 311 for ten hours of the requirement in biological science.

SOCIAL SCIENCE**Minors: 30, 35, or 40 Hours**

HY 101-2 History of U.S.	10
HY 207-8 World History	10
EC 200 General Economics, or	
HY 206 American Government	5
SY Introduction to Sociology,	
SY 203 Cultural Anthropology, or	
SY 301 Sociology of the Family	5
	<hr/>
	30
EC 200 General Economics, or	
HY 206 American Government	5
	<hr/>
	35
EC 102 Principles of Geog., or	
EC 103 Economic Geography	5
	<hr/>
	40

Majors: 45, 50, or 55 Hours

Minor Requirements	40
HY 452 Hist. of Latin America, or	
HY 451 The Far East	5
	<hr/>
	45
Approved Electives from 300-400 Courses	
	5
	<hr/>
	50
Approved Electives from 300-400 Courses	
	5
	<hr/>
	55

SPEECH**Minors: 30 or 35 Hours**

SP 229 Voice & Diction	5
SP 231 Essen. of Public Speaking	5
SP 241 Bases of Speech	5
SP 273 Group Discussion	5
SP Approved Electives	10
	<hr/>
	30
SP Approved Elective/	
	5
	<hr/>
	35

Majors: 40 or 50 Hours

Minor Requirements	30
SP Approved Electives	10
(Must include at least one course in Interpretation and Radio T.V. if not covered in minor)	
	<hr/>
	40
Approved Electives	
	10
	<hr/>
	50

SPEECH THERAPY**Minor: 30 Hours**

SP 229 Voice & Diction	5
SP 301 Phonetics	5
SP 411 Intro. of Probs. in Hearing	5
SP 321 The Speech Mech.	5
SP 431 Prins. of Speech Correction	5
SP 432 Adv. Speech Correction	5
	<hr/>
	30

Majors: 40 or 50 Hours*

Minor Requirements	30
Approved Electives	10
	<hr/>
	40
Approved Electives	
	10
	<hr/>
	50

* Additional work required. 200 clock hours in a Speech and Hearing Clinic.

VOCATIONAL HOME ECONOMICS EDUCATION**

Major: 63 Hours

HE 102 Foods I	5
HE 202 Foods II	5
HE 105 Clothing I	5
HE 205 Clothing II	5
HE 207 (3)-407 (5) Child Development	8
HE 303 House I	5
HE 305 Tailoring	3
HE 313 Home Furnishing or	
HE 333 Household Equipment	5

HE 323 Home Management	5
HE 443 Home Management Residence	5
HE 353 Community and Family Health	3
HE 372 Nutrition & Health	3
Approved Electives in Home Economics	6

63

** Students must complete a minimum of three out-of-class experiences. Students qualifying to teach general home economics pursue the program outlined above except eliminate HE 443 and include student teaching.

Recommendation for Major and Minor Areas of Specialization

Each student must select a major and a minor area of specialization. These areas must represent two different teaching fields in the secondary school.

The following chart contains a list of recommendations for major and minor areas of specialization. Recommendations are based on relationship of major and minor areas, previous major-minor patterns, recognized interests of students, and administrative practice in teacher assignments.

A student must elect from one of the recommended major-minor programs when one of the proposed major-minor combinations meets the needs of the student for areas of specialization. He may, however, because of special interests, aptitudes and professional planning, elect a major-minor combination other than those combinations recommended in the chart. Minimum hours required in major and minor for major-minor combinations other than those recommended are: English major 55, minor 40; science major 55 (plus 10 hours of mathematics), minor 40 (plus 10 hours of mathematics); social science major 55, minor 40. Other subject-matter major-minor combination requirements are 45 hours for the major and 35 hours for the minor (with the exception of home economics education which has a 63 hour major and no provision for the minor.)

MAJOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	MINOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	TOTAL HOURS
A. Art, or Dramatic Arts	(1) English	90
	(2) Social Science	90
B. Business Education	(1) Social Science	90
	(2) English	90
	(3) Science (plus 10 hours math when needed for prerequisites)	95
C. Business Education	Mathematics	75
D. English	Social Science	40
	Plus a total of 15 hours, exclu- sive of courses in major-minor, selected from one or more of the following areas: music, art, speech, speech therapy, dramatic arts, television, radio, journal- ism, reading, audio-visual aids, library science, modern lan- guages, and psychology.	110
E. English	(1) Speech	30
	(2) Dramatic Arts	30
	(3) Art	30
	(4) Music	27
	(5) Speech Therapy	30
	(6) Modern Languages	30
	For minor selected add 10 hours, exclusive of courses in major-minor, selected from one	

MAJOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	MINOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	TOTAL HOURS
	or more of the following areas: dramatic arts, speech, speech therapy, art, music, journalism, television, reading, audio-visual aids, and psychology.	87-90
F. English or Social Science .....55	Science (plus 10 hours mathematics when needed for prerequisites) .....45	110
G. Health and Physical Education (Men) .....55 (for Women) .....60	(1) English .....40 95 (2) Social Science .....40 95 (3) Science (plus 10 hours mathematics when needed for prerequisites) .....35 100 (4) Mathematics .....35 90	
H. Health and Physical Education (Men) .....55 (for Women) .....60	Science (plus 10 hours mathematics) .....40	105
I. Home Economics Education .....63	(1) Social Science .....30 93 (2) Science (plus 10 hours mathematics when needed for prerequisites) .....30 103	
J. Modern Languages .....40	(3) English .....30 93 (1) English .....40 80 (2) Social Science .....40 80 (3) Science (plus 10 hours mathematics when needed for prerequisites) .....40 90 (4) Dramatic Arts .....30 70 (5) Art .....30 70 (6) Speech .....30 70 (7) Music .....27 67 (8) Business Education .....30 70 (9) Physical Education .....30 70 (10) Mathematics .....35 75	
K. Mathematics .....45	(1) Physical Education .....30 75 (2) Social Science .....40 85 (3) English .....40 85 (4) Business Education .....30 75	
L. Mathematics .....50	Science .....40	90
M. Music .....45	(1) Social Science .....40 85 (2) English .....40 85	
N. Music (plus 27 additional hours in Instrumental Choral, or Pub- lic School Music) .....45	(1) Social Science .....30 102 (2) English .....30 102	
O. Science (plus 10 hours mathematics) .....50	(1) Business Education .....35 95 (2) Physical Education .....35 95 (3) English .....40 100 (4) Social Science .....40 100	
P. Science .....55	Mathematics .....40	95
Q. (a) Social Science, (b) English, or (c) Science (plus 10 hours mathematics) .....50	(1) Social Science .....35 (2) English .....35 (3) Science (plus 10 hours mathematics when needed for prerequisite) .....35 For minor selected add 30 hours in psychology including ten hours of psychology in general edu- cation.	115-125
R. Social Science .....55	English .....40 Plus a total of 15 hours, exclu- sive of courses in major-minor, selected from one or more of the following areas: music, art, read- ing, speech, speech therapy, dra- matic arts, television, radio, jour- nalism, audio-visual aids, library science, modern languages, and psychology.	110

MAJOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	MINOR AREAS OF SPECIALIZATION AND HOURS REQUIRED	TOTAL HOURS
S. Social Science .....45	(1) Speech .....35 (2) Dramatic Arts .....35 (3) Art .....35 (4) Music .....27 (5) Speech Therapy .....30 (6) Modern Languages .....30 For minor selected add 10 hours, exclusive of courses in major- minor, selected from one or more of the following areas: dramatic arts, speech, speech therapy, art, music, journalism, television, reading, audio-visual aids, and psychology.	82-90
T. Speech or Speech Therapy .....50	(1) English .....40 (2) Social Science .....40	90
U. (a) Speech,* (b) Speech Therapy* (c) Dramatic Arts, (d) Art, or Modern Languages .....40	(1) Speech* .....30 (2) Speech Therapy* .....30 (3) Dramatic Arts .....30 (4) Art .....30 (5) Modern Languages .....30 (6) Music .....27 (7) English .....40 (8) Social Science .....40	70 70 70 70 70 67 80 80

* Majors under U (a) Speech with Minor (2) Speech Therapy or Majors under U (b) Speech Therapy with Minor (1) Speech will meet minor requirements in an additional teaching area.

Schedule and Program Building for Students Majoring and Minorin in the Respective Areas of the Department of Secondary Education

The following chart sets forth suggestions on scheduling courses for each quarter during the four years of undergraduate study for all secondary education curricula. The chart contains all required courses in general and professional education, provisions for electives, and number of hours for the respective quarters. It provides also for the student to select courses from the major and/or minor for each of the respective quarters. In selecting major or minor courses for the different quarters the student will follow his subject matter major and minor charts on major and minor requirements listed above. In general, courses listed in the major and minor requirements in the above chart should be taken in sequence.

FRESHMAN YEAR

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
ED 102 Orientation: Personal & Prof. ....1	ED 103 Orientation: Personal & Prof. ....1	ED 104 Orientation: Personal & Prof. ....1
EH 101 English Comp. ....5	EH 102 English Comp. ....5	ZY 101 General Zoology,
HY 101 American History,	HY 102 American Hist., or	BY 201 General Botany, (or
HY 107 American Hist., or	EC 102 Prins. of Geog. ....5	appr. biological
EC 102 Principles of Geog. .5	PE or PW Physical Ed. ....1	science) .....5
PE or PW Physical Ed. ....1	PW 112 Hygiene (women), or	PG 213 Growth & Dev. of
PW 111 Hygiene (women), or	MS Military Tr. (men) .1	School-Age Child .5
MS Military Tr. (men) .1	Major or Minor .....5	PE or PW Physical Ed. ....1
Major or Minor .....5		PW 112 Hygiene (women), or
		MS Military Tr. (men) .1
		Major or Minor .....5

SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
PG 214	Educational Psyc. ....5	ED 200	Foundations .....6	EH 253	English Literature ..5
ZY 102	General Zoology,	MH 181	Fundamentals of	HY 207	World History,
BY 202	General Botany, (or		Math. I .....5	EC 200	Gen. Economics, or
	appr. biological		Major, Minor or	SY 201	Intro. to Sociology ..5
	science) .....5		Appr. Electives .....5		Major or Minor .....5
PE or PW	Physical Ed. ....1	PE or PW	Physical Ed. ....1	PE or PW	Physical Ed. ....1
MS	Military Tr. (men),	MS	Military Tr. (men),	MS	Military Tr. (men),
	or Elec. (women) ....1		or Elec. (women) ....1		or Elec. (women) ....1
	17		18		17

JUNIOR YEAR

EH 254	English Literature (or	EC 200	Gen. Economics,	ED	Teaching, Program
	appr. substitute) .....5	SY 201	Intro. Sociology, or		(Major-Minor) (or
ED 300	Prins. & Practices	HY 208	World History .....5		appr. elective) .....3
	in Education .....6	ED	Teaching, Program	PS 204	Survey Course in
	Major-Minor (or		(Major-Minor) (or		Physics, (or appr.
	appr. elective) .....6		appr. elective) .....3		physical science) ....5
ED	Teaching, Program		Major-Minor (or		Major-Minor (or
	(Major-Minor) (or		appr. electives) .....10		appr. electives) .....10
	appr. electives) .....3				
	20		18		18

SENIOR YEAR

ED	Teaching, Program	ED	Student Teaching ..15	ED 373	Gen. Science for
	(Major-Minor) (or				Teachers (or appr.
	appr. elective) .....3				physical science) ....5
	Major-Minor, (or				Major-Minor (or
	appr. electives) .....15			ED 490	Evaluation, Pupil
					Growth and
					Selected Topics .....3
	18		15		20

NOTE: Students taking Advanced R.O.T.C. will schedule these courses within the elective hours.

Total—215 quarter hours

Curricula for the Professional Preparation of Vocational Agriculture and Industrial Arts Teachers

Agricultural Education (AD)

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
HY 107	American History ....5	BY 201	Gen. Botany .....5	CH 104	Gen. Chemistry .....4
MH 107	College Algebra ....5	CH 103	Gen. Chemistry .....4	CH 104L	Gen. Chem. Lab. 1
ZY 101	Gen. Zoology .....5	CH 103L	Gen. Chem. Lab. ..1	EH 102	English Comp. ....5
ED 102	Orientation .....1	EH 101	English Comp. ....5	HF 201	Orchard Mgt. ....5
MS	Military Training ....1	ED 103	Orientation .....1	ED 104	Orientation .....1
PE	Physical Education ..1	MS	Military Training ....1	MS	Military Training ....1
		PE	Physical Education ..1	PE	Physical Education ..1
	18		18		18

SOPHOMORE YEAR

AS 202	Ag. Economics .....5	ED 200	Foundations .....6	SP 213	Ess. Publ. Spkg. ....5
PG 213	Growth & Dev. of	PS 204	Survey of Physics .....5	PG 214	Educational Psych. ..5
	School-Age Children 5	AN 204	Animal Nutrition ....5	SY 201	Intro. Sociology ....5
HF 221	Landscape	MS	Military Training ....1	EC 340	Personal Finance ....3
	Gardening .....5	PE	Physical Education ..1	MS	Military Training ....1
MS	Military Training ....1			PE	Physical Education ..1
PE	Physical Education ..1				
	17		18		20

JUNIOR YEAR

FIRST QUARTER

FY 313	Farm Forestry	.....5
AD 405	Teach. Farm Shop	.....5
PH 301	General Poultry	.....5
AN 303	Farm Mach.	.....5

20

SECOND QUARTER

ED 300	Prins. & Practices	.....6
	in Education	.....6
AD 406	Farm & Home	.....5
	Con.	.....5
AH 303	Livestock Prod.	.....5
JM 315	Agr. Journalism	.....3

19

THIRD QUARTER

AD 446	Teach. Agric.	.....5
AD 456	Teach. Aids	.....4
	in Ag. Ed.	.....4
HF 308	Veg. Gardening	.....5
DH 200	Funds. of Dairy	.....5

19

SENIOR YEAR

AD 466	Teaching Out-of-	.....5
	School Groups	.....5
AY 307	General Soils	.....5
AS 401	Farm Management	.....5
AN 301	Drain. & Terracing	.....5

20

AD 486	Student Teaching	.....15
	in Agr. Education	.....15

15

ED 490	Evaluation, Pupil	.....3
	Growth and	.....3
	Selected Topics	.....3
AD 407	Pract. Farm Elec.	.....5
AY 401	Forage Crops	.....5
ZY 402	Econ. Entomology	.....5

18

NOTE: Students taking Advanced R.O.T.C. may delete 18 quarter hours to be selected by his adviser.

Total—220 quarter hours

Industrial Arts Education

FRESHMAN YEAR

FIRST QUARTER

HY 107	American History	.....5
MH 107	College Algebra	.....5
ZY 101	Gen. Zoology	.....5
ED 102	Orientation	.....1
MS	Military Training	.....1
PE	Physical Education	.....1

18

SECOND QUARTER

CH 103	Gen. Chemistry	.....4
CH 103L	Gen. Chem. Lab.	.....1
BY 201	General Botany	.....5
EH 101	English Comp.	.....5
ED 103	Orientation	.....1
MS	Military Training	.....1
PE	Physical Education	.....1

18

THIRD QUARTER

CH 104	Gen. Chemistry	.....4
CH 104L	Gen. Chem. Lab.	.....1
EC 102	Prins. of Geog.	.....5
EH 102	English Comp.	.....5
ED 104	Orientation	.....1
MS	Military Training	.....1
PE	Physical Education	.....1

18

SOPHOMORE YEAR

EC 200	Prins. of Economics	.....5
PG 213	Growth & Dev. of	.....5
	School-Age Children	.....5
IL 101	Wood Working	.....1
MS	Military Training	.....1
PE	Physical Education	.....1
	Elective	.....5

18

ED 200	Foundations	.....6
PS 204	Survey of Physics	.....5
MD 102	Engr. Drawing	.....2
MD 104	Desc. Geometry	.....2
IL 104	Sheet Metal	.....1
	Design	.....1
MS	Military Training	.....1
PE	Physical Education	.....1

18

PG 214	Ed. Psychology	.....5
SP 213	Ess. of Public	.....5
	Speaking	.....5
SY 201	Intro. Sociology	.....5
MD 103	Engr. Drawing	.....2
IL 103	Machine Tools	.....1
MS	Military Training	.....1
PE	Physical Education	.....1

20

JUNIOR YEAR

AD 405	Farm Shop	.....5
IL 302	Mfg. Processes	.....3
IL 308	Gauges &	.....5
	Measurements	.....5
IL 416	Matl. of Ind. Arts	.....5
IL 403	General Shops or	.....2
	Elective	.....2

20

ED 300	Prins. & Practices	.....6
	in Education	.....6
EH 304	Technical Writing	.....3
IL 417	Organization of	.....5
	Shop Courses	.....5
AD 346	Voc. & Pract.	.....3
	Arts Ed.	.....3
ED	Teaching (Minor)	.....3

20

IL 402	Adv. Woodworking	.....5
IL 307	General Metals	.....5
IL 418	Ind. Arts Design	.....5
IL 102	Welding Science	.....1
	& Application	.....1
ED 323	Program (Major)	.....3

19

Areas of concentration require 25 or 30 hours and include Anatomy and Physiology, Biological Sciences, Child Care and Development, Fine Arts (including Art, Music, Drama), Foreign Language, Industrial Personnel, the Social Sciences, and others as approved by the Department Chairman. Lists of suggested courses to include in minors and areas of concentration are available from advisors and in the Department Office.

Curriculum in Psychology (PG)

FRESHMAN YEAR

FIRST QUARTER			SECOND QUARTER			THIRD QUARTER		
EH 101	English Comp.	.....5	EH 102	English Comp.	.....5	CH or PS	Chem. or Physics	
PG 101	Orientation	.....5	HY	Hist. Requirement	..5		Requirement	.....5
	Sci. Requirement	.....5		Sci. Requirement	.....5	MH 107	College Algebra	.....5
*MS	Military Training	....1	*MS	Military Training	....1		Social Studies	
PE	Physical Education	..1	PE	Physical Education	..1		Requirement	.....5
						*MS	Military Training	....1
						PE	Physical Education	..1
		17			17			17

SOPHOMORE YEAR

EH	Eng. Requirement	..5	EC	Eco. Requirement	....5	MH 127	Elem. Math.	
PG 211	General Psychology	5	EH	Eng. Requirement	..5		Statistics	.....5
SY	Soc. Requirement	..5		Sci. Requirement	.....5	VM 210	Human Physiology	..5
*MS	Military Training	....1	*MS	Military Training	....1		Minor	.....5
PE	Physical Education	..1	PE	Physical Education	..1	*MS	Military Training	....1
						PE	Physical Education	..1
		17			17			17

JUNIOR YEAR

FL	Foreign Language	..5	FL	Foreign Language	..5	FL	Foreign Language	..5
PA	Phil. Requirement	..5	PA	Phil. Requirement	..5	PG 410	Adv. Psychology	....5
PG 325	Psyc. of Personality	5	PG 340	Psychometric Meth.	5		Minor	.....5
	**Elective	.....3		**Elective	.....3		**Elective	.....3
		18			18			18

SENIOR YEAR

PG 420	Experimental Psyc.	..5	PG	Elective	.....5	PG	Elective	.....5
PG 455	Tests and			Minor	.....5		Minor	.....5
	Measurements	.....5		**Minor or Elective	....8		**Elective	.....8
	**Minor or Elective	....8						
		18			18			18

Total—210 quarter hours

* Women students will substitute PW 111, 112, 113, Hygiene, in freshman year and electives in sophomore year.

** Students taking Advanced R.O.T.C. will schedule these courses within the elective hours.

Division of Engineering

THE DIVISION OF ENGINEERING consist of three branches of services: The School of Engineering, the Engineering Extension Service, and the Engineering Experiment Station. The School of Engineering includes the departments of Pre-Engineering, Aeronautical Engineering, Civil Engineering, Electrical Engineering, Engineering Graphics, Industrial Laboratories, Industrial Management, Mechanical Engineering, the School of Textile Technology, and the Auburn School of Aviation.

School of Engineering

FRED H. PUMPHREY, *Dean*

EARL I. BROWN, II, *Assistant Dean*

Since the fundamentals of Engineering are common to all branches of the profession, the program of study for the Freshman Year is common to all Engineering curricula. This Freshman Program is administered as a separate curriculum in the Department of Pre-Engineering. (See page 149.)

Admission Requirements — The specific requirements for admission to the Pre-Engineering curriculum are full 15 units of a four-year high school course, or the equivalent as shown by examination, including a minimum of one and one-half units in algebra, one unit in plane geometry and one-half unit in solid geometry. Students lacking the required units in geometry will be admitted conditionally, but must satisfactorily pass this subject within one academic year either by examination or by taking the non-credit course offered by the University.

Students are admitted to an engineering curriculum by an Admissions Committee after successful completion of the Pre-Engineering Program with acceptable grades. The student may defer the selection of the curriculum in Engineering in which he is particularly interested until the Sophomore Year. Many students will find that limited capability in the field of mathematics and science indicates that they should not continue with engineering.

Engineering Curricula — The curricula offered by the various departments in the School of Engineering are designed to meet the educational requirements of the engineering profession. The program in the fundamental sciences of mathematics, chemistry, and physics is followed by a study of basic engineering sciences. Specialized or departmental courses follow in the third and fourth years. A parallel program giving a general education with emphasis on the humanistic social studies, including history, literature, economics, philosophy and similar courses is followed during all four years and has as its objective a good general education for the engineering student. This balanced program is designed to train men who will meet the needs of modern industry.

The School of Engineering offers curricula leading to the following degrees: Bachelor of Aeronautical Engineering, Bachelor of Civil Engineering,

Bachelor of Electrical Engineering, Bachelor of Engineering Physics, and Bachelor of Mechanical Engineering. The curriculum in Agricultural Engineering is offered by the School of Agriculture and the curriculum in Chemical Engineering is offered by the School of Chemistry.

Engineering students who wish to lighten the strenuous load of a four-year curriculum, and achieve a more thorough understanding of the subject matter, may schedule 17 or 18 hours per quarter rather than the prescribed 20 hours. It is recommended that those students who are not well grounded in English, mathematics or science plan their programs on the basis of the lighter load. This will require one or more additional quarters of residence.

Management Curricula — Three management curricula are offered in the School of Engineering. They are Bachelor of Aeronautical Administration, Bachelor of Industrial Management, and Bachelor of Textile Management. These curricula are designed to prepare young men and women for a wide range of administrative and managerial positions in industry. The program of study in the first two quarters of the freshman year in these three curricula is similar to the corresponding program of engineering curricula in order to provide a period of orientation, guidance, and selection after entering college. These students will also be registered in the Department of Pre-Engineering as Pre-Engineering-Management students. They will be enrolled in the management curricula of the School of Engineering upon successful completion of the Freshman Program.

Science Curriculum — In addition to the Engineering and Management Curricula, a course in Textile Science is offered in the School of Textile Technology. The degree will be Bachelor of Textile Science with majors in Textile Physics and Textile Chemistry.

Master's Degree — The programs of graduate studies for the master's degree are offered by the School of Engineering for the Graduate School. For requirements for the master's degree see under Graduate School.

Engineering Loan Fund. — The George Hall Hazlehurst Student Aid Fund was established in 1942. Mr. Hazlehurst was a former director, Bureau of Sanitation, Alabama State Department of Health. This fund was established for the purpose of granting loans to deserving residents of Alabama to assist them in obtaining an engineering education at Auburn University. For information concerning loans apply to the Dean of the School of Engineering.

Engineering Extension Service

CHARLES E. GEARING, *Director*

The Engineering Extension Service was established in 1937 to extend off the campus use of the facilities of all branches and departments of the Division of Engineering in such a manner as to enable the College to render a greater service to the citizens, the government, and the industries of the State of Alabama, (1) by promoting the program of co-operative education for business

and industry, and (2) by conducting short technical courses and conferences on the campus for the personnel of industry.

Co-operative Engineering Program

The Co-operative Engineering Program affords a student in engineering an opportunity to acquire practical industrial experience which relates to his theoretical classroom instruction. His practical experience is integrated with his school work by alternating periods in school with equivalent periods in an industrial assignment.

The purpose of the industrial experience is to broaden and give meaning to the student's school work, to give the student profound lessons in human relations, to help him clarify and reaffirm his educational objectives, and to help him financially in his educational program.

The co-op student should complete two or three quarters in school before starting his work period, and then alternate between school and industry on a quarterly basis. Because the school is on the quarter system, the co-op attends the same classes and fulfills the same curricula requirements as the regular students. Furthermore, the co-op is free to participate in any of the campus activities he desires.

The Co-operative Program is available to students in all of the engineering curricula and several other departments. For a complete listing, see page 86.

Auburn School of Aviation

ROBERT G. PITTS, *Director*

The Auburn School of Aviation was established in 1942 as a department of the School of Engineering to offer flight and ground school instruction in aircraft piloting for resident and extension students of the University, for the Armed Forces, and for the general public; and to serve the citizens of Alabama and the Southern Region by providing other services in the broad field of aviation. The School cooperates fully with the Federal Aviation Agency in conducting special aviation training programs. At the present time the School is conducting a flight program for the training of private pilots, commercial pilots, and flight instructors.

The University is exceptionally well equipped to conduct pilot training programs, inasmuch as it owns a large, modern airport of 325 acres conveniently located within two miles of the campus. The landing field consists of two paved runways 4,000 feet long and one sod strip 5,600 feet long. Other facilities include two large hangars and a modern Administration Building.

In addition to the training of pilots, such other public service accommodations as airplane storage, servicing, maintenance, and repair are provided at the airport. In conjunction with the Aeronautical Engineering Laboratories located on the campus, the operation at the airport serves as an excellent laboratory of practical training for students enrolled in the curricula of Aeronautical Administration and Aeronautical Engineering. Because of the excellent aviation facilities, the University has been fully certified by the Federal Aviation Authority as an Approved Ground and Flight School.

The Director of the Auburn School of Aviation is an Aircraft Inspection Representative for the Federal Aviation Agency.

Engineering Experiment Station

FRED H. PUMPHREY, *Director*
EARL I. BROWN II, *Assistant Director*

The Engineering Experiment Station was authorized by the Board of Trustees on February 22, 1929. It is prepared to conduct basic research projects in Aeronautical, Chemical, Civil, Electrical, Mechanical, and Textile Technology. Emphasis is placed on those projects which offer opportunities to help foster and develop the industries of Alabama. Research projects are conducted by the established academic engineering departments of the college under the direction of the Engineering Experiment Station. Results are published in Engineering Experiment Station Bulletins.

Not only does the Engineering Experiment Station offer broad programs of research service and experimental aid, but it serves the equally important function of training students for careers in many fields of research and development. These research scientists and engineers are essential to the industrial growth of Alabama.

Pre-Engineering

HOWARD STRONG, *Director*

The Pre-Engineering Program consists of a freshman program of studies to prepare students for admission to the School of Engineering with sophomore standing.

The freshman Pre-Engineering curriculum shown below is uniform for five Engineering curricula: namely Aeronautical Engineering, Civil Engineering, Electrical Engineering, Engineering Physics, and Mechanical Engineering.

Curriculum in Pre-Engineering (PN)

FRESHMAN YEAR

FIRST QUARTER	SECOND QUARTER	THIRD QUARTER
EH 101 English Comp. ....5	CH 103 General Chemistry ..4	CH 104 General Chemistry ..4
HY 107 American History ....5	CH 103L Gen. Chem. Lab. ..1	CH 104L Gen. Chem. Lab. ..1
MH 111 Intr. College Math. 5	EH 102 English Comp. ....5	EH 108 Classical Lit. ....5
EG 102 Engin. Drawing I ..2	MH 112 Intr. College Math. 5	MH 161 Analytic Geometry
IL 103 Machine Tool Lab. ..1	EG 104 Descriptive Geom. ..2	& Calculus .....5
MS Military Training ....1	IL 102 Welding Science &	EG 105 Engin. Drawing II ..2
PE Physical Education ....1	Applications .....1	HY 105 Current Events .....1
	MS Military Training ....1	MS Military Training ....1
	PE Physical Education ..1	PE Physical Education ..1

The freshman program of studies in the Aeronautical Administration curriculum is given on page 151, in the Industrial Management curriculum on page 157, in the Textile Management curriculum on page 160, in the Textile Science curriculum on page 161.

Requirements for Admission to the School of Engineering.—The Pre-Engineering student will be eligible for admission to the curriculum of his

choice in the School of Engineering upon completion of the following requirements, with the approval of the Engineering Admission Committee.

To any one of the five Engineering curricula by completing with acceptable grades the minimum of forty-one quarter hours, consisting of fifteen quarter hours of Mathematics, ten quarter hours of English Composition, ten quarter hours of Chemistry, and six quarter hours of Engineering Graphics, including Descriptive Geometry.

To the Aeronautical Administration and Industrial Management curricula by satisfactory completion of 50 quarter hours of the freshman year.

To the Textile Management and Textile Science curricula by satisfactory completion of 45 quarter hours of freshman year.

Curricula in Engineering

Humanistic-Social Studies — The various engineering curricula are arranged to allow students in those curricula the opportunity to schedule a minimum of 30 quarter credit hours of humanistic-social studies. A few courses are prescribed, but the student may choose, in addition, several humanistic-social courses of particular interest to him. The courses from which he may choose these electives are listed below.

APPROVED ELECTIVES

HISTORY AND GOVERNMENT

HY 204 History of the Modern World	3
HY 206 American Government	5
HY 207 or 208 World History	5
HY 314 American Colonial History	3
HY 315 International Organization	3
HY 322 The U.S. in World Affairs	3
HY 371 History of the West	3
HY 407 Political Science	5
HY 460 Great Leaders of History	3
HY 482 History of the South	3
HY Current Events	1

LITERATURE

EH 320 An Introduction to Drama	3
EH 350 Shakespeare's Greatest Plays	3
EH 355 Masterpieces of World Literature	3
EH 365 Southern Literature	3
EH 381 The Literature of the Age of Reason	3
EH 385 The Impact of Science and Technology upon Modern Literature	3
SP 334 Great American Speeches	3

THE ARTS

AT 332 American Painting and Sculpture	3
AT 431 Contemporary Art	3
AR 360 Appreciation of Architecture	3
DR 313 Drama Appreciation I	3
DR 314 Drama Appreciation II	3

MU 351 Appreciation of Music	3
MU 352 Masterpieces of Music	3

ECONOMICS

EC 301 Geo-Political Basis of World Powers	3
EC 405 Cultural Geography of the World	5
EC 407 World Resources and Their Utilization	5

SOCIOLOGY

SY 201 Introduction to Sociology	5
SY 204 Social Behavior	5
SY 307 The Court and Penal Administration	3
SY 311 Technology and Social Change	3
SY 403 Regional Sociology	5

PHILOSOPHY AND RELIGION

PA 301 Introduction to Philosophy	3
PA 302 Introduction to Ethics	3
PA 303 Democracy and World Order	3
PA 307 Scientific Reasoning	5
PA 308 Introduction to Logic	3
RE 301 Religion and Modern Thought	3
RE 303 Christian Ethics	5
RE 305 Comparative Religion	3
RE 306 Studies of the Gospels	3

PSYCHOLOGY

PG 211 General Psychology	5
PG 311 Behavior of Man	3
PG 461 Industrial Psychology	5

Aeronautical Administration

The curriculum in Aeronautical Administration provides training for men and women who intend to hold positions connected with concerns engaged in aircraft manufacturing and air transportation. Study in the methods, economics, and principles of business is combined with certain fundamental aeronautical courses, thus resulting in a curriculum which will qualify graduates for positions as aircraft production executives; air traffic experts; and managers of airlines, airports, aircraft agencies, and other business activities in the aviation industry. Suggested groups of major electives enable students in their senior year to specialize in business administration, industrial relations, production management, sales management, and pilot training.

Curriculum in Aeronautical Administration (AA)

FRESHMAN YEAR

FIRST QUARTER

CH 103	Gen. Chemistry	.....4
CH 103L	Gen. Chem. Lab.	..1
EH 101	English Comp.	.....5
MH 111	Intr. College Math.	5
EG 102	Engin. Drawing I	....2
IL 102	Weld. Sci. & App.	..1
MS	Military Training	....1
PE	Physical Education	..1

SECOND QUARTER

CH 104	Gen. Chemistry	.....4
CH 104L	Gen. Chem. Lab.	..1
EH 102	English Comp.	.....5
MH 112	Intr. College Math.	5
EG 104	Descriptive Geom.	....2
IL 103	Machine Tool Lab.	..1
MS	Military Training	....1
PE	Physical Education	..1

THIRD QUARTER

HY 107	American History	.....5
MH 108	Math. of Finance	.....5
PS 204	General Physics	.....5
EG 105	Engin. Drawing II	..2
IL 104	Sheet Metal Design & Fabrication	.....1
MS	Military Training	....1
PE	Physical Education	..1

SOPHOMORE YEAR

EC 213	Engin. Accounting	..5
HY 206	American Gov't or	
EC 103	Econ. Geography	....5
EH 345	Bus. and Prof.	
	Writing	.....5
**ST 113	Typewriting	.....3
MS	Military Training	....1
PE	Physical Education	..1

AE 201	Elem. Aeronautics	..5
EC 214	Cost Control	.....5
EC 200	General Economics	..5
EH 107	Intro. to Literature	..3
MS	Military Training	....1
PE	Physical Education	..1

AE 303	Air Navigation I	.....5
IM 306	Industrial Mgt.	.....5
AE 304	Meteorology	.....5
SP 305	Public Speaking	....3
MS	Military Training	....1
PE	Physical Education	..1

JUNIOR YEAR

AE 307	Air Navigation II	.....5
EC 442	Personnel Mgt.	.....5
EC 404	Office Mgt.	.....5
	*General Elective or Military Training	....3

AE 420	Civil Air Regulat.	.....5
EC 341	Business Law	.....5
IM 302	Production Control	..5
	*General Elective or Military Training	....3

AE 407	Aircraft Power- plants	.....5
EC 345	Statistics	.....5
EC 463	Corp. Finance	.....5
	*General Elective or Military Training	....3

SENIOR YEAR

AE 416	Airport Mgt.	.....5
AE 419	Air Traffic Control	..5
	Major Elective	.....5
	*General Elective or Military Training	....3

AE 418	Air Transportation	..5
AE 425	Aircraft Compon'ts	..5
	Major Elective	.....5
	*General Elective or Military Training	....3

AE 417	Airline Operation	.....5
PG 461	Industrial Psy- chology	.....5
	Major Elective	.....5
	*General Elective or Military Training	....3

Total—228 quarter hours

* Courses used for General Electives must be approved by the Head of the Department.

** Students who have one unit of high school typing will not be allowed credit for ST 113. An elective, approved by the Head of the Department, will be substituted.

SUGGESTED MAJOR ELECTIVES

In addition to the subjects listed below, other subjects may be used as major electives upon approval by the Head of the Department.

BUSINESS ADMINISTRATION

EC 323 Real Estate	5
EC 332 Credits and Collection	5
EC 342 Business Law	5
EC 434 Purchasing	5
EC 464 Investments	5

INDUSTRIAL RELATIONS

EC 350 Labor Problems	5
EC 444 Labor Legislation	5
EC 445 Industrial Relations	5
EC 450 Job Evaluation & Incentive Systems ..	5
IM 307 Safety Engineering	5
IM 410 Industrial Training	5
PG 461 Industrial Psychology	5

PILOT TRAINING

AE 306 Private Pilot Training—Flight	3
--	---

AE 460 Commercial Pilot Training—Flight ..	3
AE 423 Flight Instructor Training	3
AE 424 Instrument Flying	3
AE 427 Multi-Engine Training	3

PRODUCTION MANAGEMENT

EE 307 Illuminating Engineering	5
ES 308 Gages and Measurements	5
IM 309 Materials Handling	5
IM 310 Methods Engineering	5
IM 311 Time Study	5
IM 402 Quality Control	5
IM 412 Engineering Economy	5

SALES MANAGEMENT

EC 331 Marketing	5
EC 333 Salesmanship	5
EC 432 Advertising	5

Aeronautical Engineering

The work in Aeronautical Engineering is based on a solid foundation in mathematics, physics, applied mechanics, strength of materials, and engineering design and analysis. The curriculum is designed to prepare men and women for an active part in four of the major fields of aviation: (1) government employment, including the Service Flying Corps and the United States Civil Service; (2) production, including design and manufacture; (3) operation, including maintenance, service, and repair of airline and private flight equipment; and (4) research, including both private and government enterprise.

Curriculum in Aeronautical Engineering (AE)

FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 149)

SOPHOMORE YEAR

FIRST QUARTER

MH 262 Analytic Geometry & Calculus	5
PS 201 Physics-Mechanics ..	5
EC 200 General Economics ..	5
EG 204 Kin. of Machines	3
IL 104 Sheet Metal Design & Fabrication	1
MS Military Training	1
PE Physical Education ..	1

SECOND QUARTER

MH 263 Analytic Geometry & Calculus	5
PS 202 Physics-Heat, Sound & Light	5
ME 202 Materials of Engin. ..	3
HY 206 American Gov't	5
MS Military Training	1
PE Physical Education ..	1

THIRD QUARTER

MH 264 Analytic Geometry & Calculus	5
PS 203 Physics-Electricity & Magnetism	5
ME 205 Applied Mech.- Statics	5
EH 208 Literature of the Western World	3
MS Military Training	1
PE Physical Education ..	1

JUNIOR YEAR

MH 361 Diff. Equations I	5
ME 307 Applied Mech.- Dynamics	5
ME 301 Thermodynamics	5
†SP 305 Public Speaking	3
EC 206 Socio-Econ. Found. of Contp. America ..	3

MH 403 Engin. Math. II	5
ME 306 Str. of Materials I ..	5
AE 301 Basic Aerodynamics ..	5
AE 309 Aerodynamics Lab. I ..	1
*Elective	3

MH 404 Engin. Math. III	5
AE 413 Theo. Aerodynamics ..	5
AE 308 Aircraft Structures I ..	5
EE 202 Elec. & Magnetic Circuits I	5

SENIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
AE 404	High Speed Aero-dynamics .....5	AE 411	Airplane Design .....5	AE 415	Rocket & Jet Propulsion .....5
AE 409	Aircraft Structures II .....5	AE 429	Aircraft Vibration & Flutter .....5	AE 403	Stability & Control .....5
EE 305	Electronics & Mach. 5	AE 401	Aero. Problems I .....1	AE 408	Aerodynamics Lab. II .....1
AE 412	Aircraft Struct. Lab. 2		*Elective .....3	AE 402	Aero. Problems II .....1
	*Elective .....3				Technical Elective .....5
					*Elective .....3

Total—240 quarter hours

* Courses used for electives must be selected from the list of Humanistic-Social Studies (p. 167), subject to approval of the Department Head.

† Six hours of Advanced R.O.T.C. may be substituted for SP 305 (3 hrs.), and three additional hours approved by the Department Head.

SUGGESTED TECHNICAL ELECTIVES

In addition to the subjects listed below, other subjects may be used as technical electives upon approval by the Head of the Department.

AE 430	Rotary Wing Aircraft .....5	MH 407	Mathematics of Computers .....5
AE 431	Astronautics .....5	ME 406	Metallurgy .....5
CN 440	Nuclear Engineering .....5	ME 421	Heat Transfer .....5

Civil Engineering

The Civil Engineering curriculum is designed to provide a sound training in mathematics and the physical sciences, in the applied sciences and principles of civil engineering, in a limited number of technical electives, and in humanistic-social studies. The objective of the curriculum is that, upon completion of the curricular requirements, the graduate will be well prepared for further training by his employer and for eventual practice of civil engineering. That part of the curriculum devoted to mathematics and the physical sciences is the foundation upon which the professional training is built. The success of the professional training is dependent upon the strength of this foundation. The technical electives in the curriculum provide for limited specialization in some branch of civil engineering such as highway, hydraulic, sanitary, soils or structural engineering.

Training in civil engineering may lead to professional activities in analysis, design, research, construction, production or sales. Such activities may be directly or indirectly concerned with highways, railroads, dams and appurtenant structures, rivers, harbors, water supply, sewage disposal, industrial wastes, foundations, buildings, bridges, etc.

The civil engineer has held a leading role in the development of our country. As in most of the professions, great changes are taking place in methods and equipment. It is to be expected that the civil engineer will take full advantage of recent advancements in science.

Curriculum in Civil Engineering (CE)

FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 149)

SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 200	General Economics .....5	CE 201	Surveying I .....5	CE 203	Surveying II .....5
PS 201	Physics-Mechanics .....5	PS 202	Physics-Heat, Light & Sound .....5	ME 205	Applied Mech.-Statics .....5
MH 262	Analytic Geometry & Calculus .....5	MH 263	Analytic Geometry & Calculus .....5	PS 203	Physics-Electricity & Magnetism .....5
EH 208	Literature of the Western World .....3	ME 202	Materials of Engin. ....3	EC 206	Socio-Econ. Found. of Contp. America ....3
MS	Military Training .....1	MS	Military Training .....1		Military Training .....1
PE	Physical Education .....1	PE	Physical Education .....1		Physical Education .....1

JUNIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
ME 307	Applied Mech.-Dynamics .....5	CE 308	Hydraulics .....5	CE 304	Theory of Structures I .....5
MH 264	Analytic Geometry & Calculus .....5	ME 306	Strength of Materials I .....5	CE 305	Sanitary Engin. I ..5
CE 302	Highway Engin. I .....5	EE 202	Elec. & Magnetic Circuits I .....5	EE 305	Electronics & Mach. ..5
CH 342	Geology .....3	CE 314	Analysis of Aerial Photographs .....3	CE 406	Hydraulics Lab. ....1
	*Elective .....3	†SP 305	Public Speaking .....3	ME 309	Materials Testing Laboratory .....1
					*Elective .....3

SENIOR YEAR

CE 401	Theory of Structures II .....5	CE 404	Reinforced Concrete 5	ME 310	Thermodynamics ....5
CE 405	Sanitary Engin. II ..5	CE 414	Struc. Design I .....5	IM 412	Engin. Economy ....5
CE 418	Soil Mechanics .....5		Technical Elective ..5		Technical Elective ..5
MH 361	Diff. Equations .....5	CE 403	Highway Materials Lab. ....2	†EC 343	The Law and Contracts .....3
			*Elective .....3		

Total—240 quarter hours

* Courses used for electives must be selected from the list of Humanistic-Social Studies (p. 150), subject to approval of the Department Head.

† Six hours of Advanced R.O.T.C. may be substituted for SP 305 (3 hrs.) and EC 343 (3 hrs.).

SUGGESTED TECHNICAL ELECTIVES

AE 415	Rocket and Jet Propulsion .....5	CN 440	Nuclear Engineering .....5
AN 403	Drainage and Terrace Design .....5	EC 345	Statistics .....5
AR 471	Town Planning .....5	EC 476	Motor Transportation .....5
CE 306	Higher Surveying .....5	ME 316	Strength of Materials II .....5
CE 402	Indeterminate Structures .....5	ME 405	Air Conditioning .....5
CE 407	Municipal Engineering I .....5	ME 406	Metallurgy .....5
CE 408	Engineering Foundations .....5	ME 412	Internal Combustion Engines .....5
CE 409	Public Health Engineering .....5	MH 402	Engineering Mathematics I .....5
CE 410	Highway Engineering II .....5	MH 414	Vector Analysis .....5
CE 411	Flow in Open Channels .....5	MH 461	Numerical Analysis I .....5
CE 412	Hydrology .....5	PS 401	Theoretical Physics I—Mechanics .....5
CE 416	Prestressed Concrete Design .....5	PS 402	Theoretical Physics II—Mechanics .....5
CE 417	Structural Design II .....5	PS 405	Nuclear Physics .....5
CE 419	Municipal Engineering II .....5	VM 415	General Bacteriology .....5
CE 420	Sanitary Engineering Lab. ....5		

Electrical Engineering

The curriculum in Electrical Engineering is designed to keep abreast of the rapid development recently made in the electronic and power fields. Furthermore, students in Electrical Engineering receive comprehensive training in those basic principles which are likely to be useful in any field of engineering which they may enter.

The Electrical Engineering Curriculum recognizes that the student's major interest may lie in:

- (1) The application of electronics in communications, telemetering, wave propagation, and other phases of electronics, or
- (2) The field of electric power including generation and transmission, the design and manufacture of energy conversion apparatus and industrial electronics control systems.

Therefore, the student in his senior year may specialize within the Electrical Engineering Curriculum by selecting a group of courses pertaining either to the Electronic Field or the Power Field as defined above.

The student may pursue a special interest in his senior year by selecting from courses offered in illuminating engineering, telephone engineering, television engineering, electric power systems, advanced circuit theory, microwave engineering, transistor electronics or courses offered by the Aeronautical Engineering, Civil Engineering, or Mechanical Engineering Departments. Courses

of additional interest to the student of Electrical Engineering can be found in the Mathematics and Physics Departments.

Curriculum in Electrical Engineering (EE)

FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 149)

SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 200	General Economics ...5	EE 202	Electric & Magnetic Circuits I .....5	EE 203	Electric & Magnetic Circuits II .....5
EG 204	Kin. of Machines ...3	MH 263	Analytic Geometry & Calculus .....5	MH 264	Analytic Geometry & Calculus .....5
MH 262	Analytic Geometry & Calculus .....5	PS 203	Physics-Electricity & Magnetism .....5	PS 202	Physics-Heat, Light & Sound .....5
PS 201	Physics-Mechanics ...5	EH 208	Literature of the Western World .....3	EC 206	Socio-Econ. Found. of Contp. America ...3
MS	Military Training ...1	MS	Military Training ...1	MS	Military Training ...1
PE	Physical Education ...1	PE	Physical Education ...1	PE	Physical Education ...1

JUNIOR YEAR

EE 331	Circuit Analysis I .....5	EE 320	Electronics .....5	EE 309	D.C. Machinery .....5
MH 361	Diff. Equations I .....5	EE 332	Circuit Analysis II ...5	EE 333	Circuit Analysis III 5
ME 205	Applied Mech.-Statics .....5	ME 307	Applied Mech.-Dynamics .....5	EE 340	Comm. Engin. I .....5
EE 312	Alternating Current Laboratory I .....1	MH 402	Engin. Math. I .....5	EE 310	D.C. Laboratory ...1
†SP 305	Public Speaking ...3	EE 321	Electronics Lab. ...1	EE 341	Comm. Engin. Lab. I .....1

SENIOR YEAR

EE 402	Alternating Current Machinery I .....5	*EE 430	Radio Transmission Lines or	EE 442	Ind. Electronics & Control Ckts. ....5
ME 310	Thermodynamics ...5	†EE 406	Symmetrical Components .....5	ME 434	Fluid Mechanics & Heat Transfer .....5
†EE 410	Power Transmission Lines or	*EE 448	Comm. Engr. II or	*EE 453	Comm. Engr. Lab. IV or
*EE 450	Applied Electromagnetism .....5	†EE 413	Alternating Cur. Machinery II .....5	†ME 309	Materials Testing Lab. ....1
EE 403	Alternating Current Laboratory II .....1	ME 306	Strength of Materials I .....5		Technical Elective ...5
*Elective	.....3	*EE 449	Comm. Engr. Lab. II and	*Elective	.....5
		*EE 451	Comm. Engr. Lab. III or		
		†EE 414	Alternating Cur. Lab. III .....2		
		*EE 441	Radio Freq. Meas. or		
		†EE 316	Electrical Meas. ....3		

Total—240 quarter hours

* Required courses for Electronic and Communication Field.

† Required courses for Electric Power Field.

* Courses used for electives must be selected from the list of Humanistic-Social Studies (p. 150), subject to approval of the Department Head.

† Six hours of Advanced R.O.T.C. may be substituted for SP 305 (3 hrs.), and three additional hours approved by the Department Head.

SUGGESTED TECHNICAL ELECTIVES

In addition to the courses listed below, other courses may be used as technical electives upon approval by the Head of the Department.

Students in either field of Electrical Engineering may select as a technical elective any course required of the other field. They may also select any non-required course numbered 300 or over that is offered by the Aeronautical Engineering, Civil Engineering, Mathematics, Mechanical Engineering or Physics Departments.

The following courses, not covered by the above, are also suggested as technical electives:

EE 307	Illuminating Engineering .....5	EE 439	Electric Waves .....5
EE 404	Telephone Engineering .....5	EE 440	Television Engineering .....5
EE 405	Electric Power Systems .....5	EE 443	Transistor Electronics .....5
EE 408	Advanced A.C. Circuits II .....5	EE 444	Fundamentals of Digital Computers ...5
EE 433	Frequency Modulation .....5	EE 445	Nuclear Instrumentation .....5
EE 438	Advanced UHF Circuits .....5	IM 412	Engineering Economy .....5

Engineering Physics

The curriculum in Engineering Physics is recommended only for those students who have shown high capability in the pre-engineering program. It includes a well-rounded humanities program and a broad background in mathematics and the physical and engineering sciences. This is followed by experience in engineering design and analysis in one of the traditional fields of engineering.

This curriculum gives an especially good preparation for graduate work in engineering or physics, and it is expected that nearly all graduates of this curriculum will continue for one or more advanced degrees. Students of high capability are encouraged to accept this challenge to their abilities and to enroll in this curriculum.

It is designed to prepare students for many of the more challenging areas of engineering endeavor, such as nuclear, electronic, and space engineering and engineering teaching, which require a broad scientific background. The opportunities in these areas are exceptional but usually are open only to men of outstanding ability who have continued their training until they have obtained advanced degrees.

Curriculum in Engineering Physics (EP)

FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 149)

SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 200	General Economics ..5	ME 205	Mechanics-Statics .....5	CH 206	Quantitative Analysis .....5
MH 262	Analytic Geometry & Calculus .....5	MH 263	Analytic Geometry & Calculus .....5	MH 264	Analytic Geometry & Calculus .....5
PS 201	Physics-Mechanics ..5	PS 212	Physics-Heat Sound & Light .....5	PS 203	Physics-Electricity & Magnetism .....5
EH 208	Literature of the Western World .....3	ME 202	Materials of Engin. 3	EG 204	Kin. of Machines ..3
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

JUNIOR YEAR

CH 313	Phys. Chemistry ....5	CH 314	Physical Chemistry ..5	EE 320	Electronics .....5
MH 361	Diff. Equations I ....5	EE 331	Circuit Analysis I ....5	ME 302	Thermodynamics II 5
PS 301	Intermed. Electricity & Magnetism .....5	PS 401	Theoretical Phy. I ..5	MH 402	Engin. Math. I .....5
EC 206	Soc-Econ. Found. of Contp. America ..3	†SP 305	Public Speaking ....3	PS 402	Theoretical Phy. II ..5
	*Elective .....3	EE 312	Alternating Current Laboratory I .....1	EE 321	Electronics Lab. ....1

SENIOR YEAR

ME 306	Strength of Materials .....5	EE 332	Circuit Analysis II ..5	ME 406	Metallurgy .....5
ME 313	Fluid Mechanics ....5	ME 421	Heat Transfer .....5	PS 405	Nuclear Physics .....5
PS 304	Ap. Spectroscopy ..5	**Engr. Elective .....5		ME 411	or ME 412
PS 305	Modern Physics .....5	*Elective .....3			ME Laboratory .....2
		ME 309	Materials Testing Laboratory .....1	**Engr. Elective .....5	
				*Elective .....3	

Total—240 quarter hours

† Six hours of Advanced R.O.T.C. may be substituted for SP 305 (3 hrs.), and three additional hours approved by the Assistant Dean of Engineering.

* Courses used for electives must be selected from the list of Humanistic-Social Studies (p. 150), subject to approval of the Assistant Dean of Engineering.

** Courses used for engineering electives are to be selected from senior level courses in either Aeronautical, Civil, Chemical, Electrical or Mechanical Engineering which are devoted to engineering analysis, design or engineering systems, as approved by the Assistant Dean of Engineering.

Industrial Management

As the title implies, the curriculum in Industrial Management is offered as a program of professional education in preparation for administrative and managerial positions in manufacturing, communication, and transportation industries. Emphasis is placed upon courses dealing with the operational and production phases of these industries rather than the technical and engineering phases. However, because of the technical nature of industry, about one-fifth of the curriculum is devoted to subjects dealing with mathematics, science, and the fundamentals of engineering. An even greater amount of time is devoted to the humanistic, social studies. Such a program of studies is frequently, and quite appropriately, referred to as "Human Engineering."

Combining basic training in both the technological and social sciences with more advanced courses in management, the curriculum provides a broad professional education for a wide field of employment opportunities. In their senior year students are given considerable freedom of choice to prepare themselves for different industries by selection of major electives from a rather extensive list of approved subjects.

Curriculum in Industrial Management (IM)

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
CH 103	Gen. Chemistry .....4	CH 104	Gen. Chemistry .....4	EH 108	Classical Literature ..5
CH 103L	Gen. Chem. Lab. ..1	CH 104L	Gen. Chem. Lab. ..1	HY 107	American History ....5
EH 101	English Comp. ....5	EH 102	English Comp. ....5	MH 251	Anal. Geometry & Calculus I .....5
MH 111	Intr. College Math. 5	MH 112	Intr. College Math. 5	EG 105	Eng. Drawing II ....2
EG 102	Eng. Drawing I .....2	EG 104	Descriptive Geom. ..2	IL ***	Industrial Lab. ....1
IL ***	Industrial Lab. ....1	IL ***	Industrial Lab. ....1	MS	Military Training ....1
MS	Military Training ....1	PE	Physical Education ..1	PE	Physical Education ..1
PE	Physical Education ..1				

*** IL 103 Machine Tool Laboratory, required for one of these laboratories. Remaining requirements may be scheduled from the following: IL 102, Welding Science and Application; IL 104 Sheet Metal Design and Fabrication; or IL 105 Foundry Technology.

SOPHOMORE YEAR

HY 206	American Gov't .....5	EC 213	Eng. Accounting .....5	EC 214	Cost Control .....5
MH 252	Anal. Geometry & Calculus II .....5	EC 200	General Economics ..5	ES 308	Gages & Meas. ....5
PS 205	Intro. Physics .....5	PS 206	Intro. Physics .....5	IM 306	Industrial Mgt. ....5
IL 301	Mfg. Processes .....3	IL 302	Mfg. Processes .....3	IL 303	Mfg. Processes .....3
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1

JUNIOR YEAR

IM 313	Budget Control .....5	EE 304	Electric Circuits .....5	EC 345	Statistics .....5
IM 310	Methods Eng. ....5	IM 307	Safety Engineering ..5	IM 309	Materials Handling ..5
ME 319	Elem. Heat Power ..5	IM 311	Time Study .....5	IM 302	Production Control ..5
EH 304	Tech. Writing .....3	SP 305	Public Speaking .....3		*General Elective or Military Training ....3
	*General Elective or Military Training ....3		*General Elective or Military Training ....3		

SENIOR YEAR

EC 442	Personnel Mgt. ....5	EC 450	Job Evaluation & Incentive Systems ..5	IM 405	Industrial Plants ....5
IM 402	Quality Control .....5	IM 412	Eng. Economy .....5	IM 406	Problems in Industrial Mgt. ....5
IM 418	Contracts & Spec. ....3	SP 316	Parliamentary Proc. 3		Major Elective .....5
	Major Elective .....5		Major Elective .....5		*General Elective or Military Training ....3
	*General Elective or Military Training ....3		*General Elective or Military Training ....3		

Total—240 quarter hours

* Courses used for general electives must be approved by the Head of the Department.

SUGGESTED MAJOR ELECTIVES

In addition to the subjects listed below, other subjects may be used as major electives upon approval by the Head of the Department.

ACCOUNTING

EC 311 Intermediate Accounting	5
EC 312 Intermediate Accounting	5
EC 411 Cost Accounting	5
EC 412 Cost Accounting	5

DISTRIBUTION

EC 331 Marketing	5
EC 332 Credit and Collections	5
EC 333 Salesmanship	5
EC 472 Economics of Transportation	5
EC 473 Traffic Management	5
EC 476 Motor Transportation	5

GENERAL

EE 307 Illuminating Engineering	5
EC 402 American Industries	5
EC 463 Corporation Finance	5
EC 474 Advanced Statistics	5

INDUSTRIAL MANAGEMENT

PG 461 Industrial Psychology	5
EC 404 Office Management	5
IL 405 Problems in Weld Engin.	5
IL 406 Problems in Machining	5
IM 308 Inventory Control	5
IM 410 Industrial Training	5
IM 411 Plant Location	5
IM 413 Sales Engineering	5
IM 414 History of Management	5
IM 415 Plant Maintenance	5
IM 416 Managerial Control	5
IM 417 Operations Research	5

INDUSTRIAL RELATIONS

EC 350 Labor Problems	5
EC 444 Labor Legislation	5
EC 445 Industrial Relations	5
PG 455 Psychological Tests & Measurem'ts ..	5
SY 408 Industrial Sociology	5

Mechanical Engineering

The work of the mechanical engineer is to design, construct, and operate the plants for generating power and for the conversion of raw materials into manufactured products. Steam boilers, steam turbines, oil engines, gasoline engines, and hydraulic turbines are designed, manufactured, and assembled into plants for generating power. Pumping plants, refrigeration plants, heating plants, and all kinds of manufacturing plants, as well as the machinery used, are designed and operated by mechanical engineers.

The design and operation of the equipment used in the broad field of transportation should also be included: railway equipment, the automobile and truck and the airplane. In preparation for so many kinds of engineering activities, it is obvious that a four-year curriculum in Mechanical Engineering must be made up largely of fundamental subjects.

Students who complete the curriculum in Mechanical Engineering have a broad field from which to select their life work. The college training, when supplemented by experience and training in practical work, qualifies graduates for positions as engineers in such fields as: consulting, sales, air conditioning, refrigeration, power plants, internal combustion engines, aircraft, petroleum, railway; specializing in design, management, or research.

Technical electives are provided in the senior year of the Mechanical Engineering curriculum to enable students to specialize, to a limited extent.

Curriculum in Mechanical Engineering (ME)

FRESHMAN YEAR

(See Pre-Engineering Curriculum, Page 149)

SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 200 General Economics ..5		ME 205 Applied Mechanics-Statics	5	MH 264 Analytic Geometry & Calculus	5
MH 262 Analytic Geometry & Calculus	5	MH 263 Analytic Geometry & Calculus	5	PS 203 Physics-Electricity & Magnetism	5
PS 201 Physics-Mechanics ..5		PS 202 Physics-Heat, Light & Sound	5	EG 204 Kinematics of Machines	3
EC 206 Socio-Eco. Found. of Contp. America	3	ME 202 Materials of Engin.	3	MS Military Training	1
MS Military Training	1	MS Military Training	1	PE Physical Education	1
PE Physical Education	1	PE Physical Education	1	°Elective	5

JUNIOR YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
ME 307	Applied Mechanics-Dynamics .....5	EE 202	Elec. & Mag. Circuits I .....5	EE 305	Electronics & Machinery .....5
ME 301	Thermodynamics I .....5	ME 302	Thermodynamics II .....5	ME 313	Fluid Mechanics .....5
MH 361	Diff. Equations I .....5	ME 306	Str. of Materials I .....5	ME 316	Str. of Materials II .....5
EH 208	Literature of the Western World .....3	ME 308	ME Lab I .....1	ME 309	Materials Testing Lab. ....1
	*Elective .....3	†SP 305	Public Speaking .....3	ME 311	ME Laboratory II .....1
					*Elective .....3

SENIOR YEAR

ME 406	Ferrous Metallurgy .....5	ME 402	Machine Design .....5	ME 410	Power Plants .....5
ME 412	I.C. Engines .....5	ME 421	Heat Transfer .....5	ME 404	Machine Design Lab. ....2
ME 427	Mechanical Vibrations .....5	ME 411	ME Laboratory III .....2	ME 424	ME Laboratory IV .....2
	*Elective .....5		Technical Elective .....5		Technical Elective .....5
			*Elective .....3		*Elective .....6

Total—240 quarter hours

† Six hours of Advanced R.O.T.C. may be substituted for SP 305 (3 hrs.), and three additional hours approved by the Department Head.

* Courses used for elective must be selected from the list of Humanistic-Social Studies (p. 150), subject to approval of the Department Head.

SUGGESTED TECHNICAL ELECTIVES

In addition to the subjects listed below, other subjects may be used as technical electives upon approval of the Head of the Department and the Dean of Engineering.

CE 304	Theory of Structures .....5	ME 415	Refrigeration .....5
CE 305	Water Supply .....5	ME 425	Gas and Steam Turbines .....5
CE 402	Indeterminate Structures .....5	ME 426	Steam Turbines .....5
CE 404	Reinforced Concrete .....5	ME 429	Power Plant Design .....5
CN 440	Nuclear Engineering .....5	ME 430	Internal Combustion Engine Problems .....5
IM 412	Engineering Economy .....5	ME 432	Automatic Controls .....5
ME 405	Air Conditioning .....5	PS 305	Introduction to Modern Physics .....5
ME 407	Non-ferrous Metallurgy .....5		

Approval of the Head of the Department is required to take more than one of the following mathematics courses:

MH 402	Engineering Mathematics I .....5	MH 404	Engineering Mathematics III .....5
MH 403	Engineering Mathematics II .....5	MH 407	Mathematics of Computers .....5

Textile Technology

The School of Textile Technology, housed in the Textile Building, is equipped with full-size machinery of a complete textile mill for the manufacture of a wide variety of fabrics from the processing of the raw material to the weaving of the finished product. The facilities also include laboratories for bleaching, dyeing, finishing, and the physical and chemical testing of fibers and fabrics.

The textile industry is now the largest industry in Alabama, comprising more than 25 per cent of the total industrial working force in the State. The greater portion of the textile industry, making yarn on the cotton system, is now located in the South and Southeast. In the Southern Region alone, there are some 1500 plants which process cotton, rayon, nylon, wool, and paper and an almost unlimited number of finished products. The industry is growing rapidly in all branches.

The size and diversity of the textile and allied industries, including manufacturers of textile machinery and equipment, chemicals and dyestuffs, research laboratories, textile supply and sales houses, afford unusual opportunities for college-trained men and women. Recent developments in the industry are opening new fields of employment in research and development and in the processing of new fibers. The need for college graduates in textile technology

has never been greater than at the present time, nor is the demand likely to be met within the next several years.

The School of Textile Technology offers two curricula to prepare students for all branches of the industry. The textile courses in these curricula are combined with courses offered by other departments of the university to provide basic instruction in the fundamental sciences, engineering, and technological subjects, and the humanistic-social studies. The two curricula are:

Textile Management. — The curriculum in Textile Management is designed to prepare the student for production, administrative, and managerial positions in the textile and allied industries. Emphasis is placed on production and operational functions and the humanistic-social studies with the inclusion of textile technological subjects. Students are permitted in their junior and senior year to major in production, sales, or design according to their interests and professional needs.

Textile Science. — The curriculum in Textile Science is designed to train men and women in the basic sciences with majors in Textile Chemistry and Textile Physics. It includes basic engineering sciences, humanistic-social studies, and textile technological subjects needed for a well-rounded training in the textile industry. It prepares students for positions in textile research, graduate study, and various industries related to textile chemistry, dye stuffs, synthetic fibers and yarn production.

The Alabama textile industry cooperates with the School of Textile Technology by assisting worthy young men and women to obtain a college education through the Cooperative Engineering Program, which is described on page 148 of this catalog.

The School of Textile Technology is organized and equipped to conduct applied and fundamental research. In cooperation with the Auburn Research Foundation, the Engineering Experiment Station, and other departments of the University, the School of Textile Technology desires to serve the textile industry of the region through the full utilization of its facilities.

Curriculum in Textile Management (TM)

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH 101	English Comp. ....5	CH 103	Gen. Chem. & Lab. 5	CH 104	Gen. Chem. & Lab. 5
HY 107	American History ....5	EH 102	English Comp. ....5	EH 108	Classical Literature .5
MH 107	College Algebra ....5	MH 108	Math. of Finance ....5	MH 127	Elem. Statistics ....5
TT 101	Intro. to Textiles ....1	IL 103	Machine Tool Lab. .1	MS	Military Training ....1
MS	Military Training ....1	MS	Military Training ....1	PE	Physical Education ....1
PE	Physical Education ....1	PE	Physical Education ....1		

SOPHOMORE YEAR

HY 206	American Gov't ....5	PG 211	Gen. Psychology ....5	EC 200	Gen. Economics ....5
SY 201	Intro. to Sociology ....5	PS 205	Intro. Physics ....5	PS 206	Intr. Physics ....5
TT 210	Fiber Processing ....5	TT 220	Weaving & Des. ....5	TT 211	Yarn Mfg. I ....5
TT 304	Textile Fibers ....2	EG 102	Engr. Drawing I ....2	MS	Military Training ....1
MS	Military Training ....1	MS	Military Training ....1	PE	Physical Education ....1
PE	Physical Education ....1	PE	Physical Education ....1		

JUNIOR YEAR

IM 306	Industrial Mgt. ....5	SP 305	Public Speaking ....3	EH 345	Bus. & Prof. Writ. ....5
TT 307	Bleaching & Dyeing 5	TT 320	Weaving & Des. II .5	TT 319	Chemical Testing ....2
	Group Elective ....5	TT 318	Physical Testing ....2	TT 418	Jacquard Weav. & Design ....2
	Gen. Elective or Military Training ....3		Group Elective ....5		Group Elective ....5
			Gen. Elective or Military Training ....3		Gen. Elective or Military Training ....3

SENIOR YEAR

SECOND QUARTER

EC 442	Personnel Mgt.	.....5
TT 405	Warp Preparation	.....5
	Group Elective	.....5
	Gen. Elective or	
	Military Training	.....3

THIRD QUARTER

TT 422	Synthetic Fibers I	.....5
TT 412	Textile Mgt.	.....3
TT 431	Fabric Analysis	.....3
	Group Elective	.....5
	Gen. Elective or	
	Military Training	.....3

Total—216 quarter hours

All Textile Management students will take the above curriculum with one of the 30 hour group electives below in accordance with interests and professional needs. Substitutions from either list may be made with approval of the Department Head.

GROUP ELECTIVES

PRODUCTION

SALES

DESIGN

IM 302	Prod. Control	.....5	EC 213	Engr. Accounting	.....5	AT 331	History of Paint. & Sculpture	.....5
IM 310	Methods Engr.	.....5	EC 331	Principles of Mark.	.....5	EC 435	Market. Problems	.....5
IM 402	Quality Control	.....5	EC 333	Salesmanship	.....5	EC 404	Office Mgt.	.....5
TT 317	Dyeing & Finish.	.....5	EC 341	Business Law	.....5	HE 315	Textiles	.....5
TT 321	Weav. & Des. III	.....5	EC 432	Advertising	.....5	HE 415	Hist. of Textiles	.....5
TT 322	Yarn Mfg. II	.....5	EC 433	Retail Store Mgt.	.....5	TT 321	Weav. & Des. III	.....5

Curriculum in Textile Science (TS)

FRESHMAN YEAR

SECOND QUARTER

THIRD QUARTER

EH 101	English Comp.	.....5	CH 103	Gen. Chemistry	.....4	CH 104	Gen. Chemistry	.....4
HY 107	American Hist.	.....5	CH 103L	Gen. Chem. Lab.	.....1	CH 104L	Gen. Chem. Lab.	.....1
MH 111	Intr. College Math.	.....5	EH 102	English Comp.	.....5	EH 107	Intro. to Lit.	.....3
IL 103	Machine Tool Lab.	.....1	MH 112	Intr. College Math.	.....5	MH 161	Ana. Gem. & Cal.	.....5
MS	Military Training	.....1	EG 102	Engr. Draw. I	.....2	EG 105	Engr. Draw. II	.....2
PE	Physical Education	.....1	MS	Military Training	.....1	MS	Military Training	.....1
			PE	Physical Education	.....1	PE	Physical Education	.....1

SOPHOMORE YEAR

MH 262	Ana. Gem. & Cal.	.....5	MH 263	Ana. Gem. & Cal.	.....5	MH 264	Ana. Gem. & Cal.	.....5
PS 201	Phys.-Mechanics	.....5	PS 202	Phys.-Heat, Sound, & Light	.....5	PS 203	Phys. Elect. & Magnetism	.....5
TT 210	Fiber Processing	.....5	TT 220	Weav. & Des. I	.....5	TT 211	Yarn Mfg. I	.....5
EH 208	Lit. of West. World	.....3	EC 206	Soc. Ec. Fd.	.....3	EG 204	Kin. of Machines	.....3
MS	Military Training	.....1	MS	Military Training	.....1	MS	Military Training	.....1
PE	Physical Education	.....1	PE	Physical Education	.....1	PE	Physical Education	.....1

JUNIOR YEAR

EC 200	Gen. Economics	.....5	SY 201	Intro. to Soc.	.....5	HY 206	American Gov't.	.....5
TT 307	Bleaching & Dye.	.....5	TT 320	Weav. & Des. II	.....5	ME 205	Appl. Mech.-Stat.	.....5
TT 304	Textile Fibers	.....2	TT 318	Physical Testing	.....2	TT 319	Chemical Test.	.....2
	Group Elective	.....5		Group Elective	.....5		Group Elective	.....5
	Gen. Elective or			Gen. Elective or			Gen. Elective or	
	Military Training	.....3		Military Training	.....3		Military Training	.....3

SENIOR YEAR

ME 307	Appl. Mech. Dynam.	.....5	EH 345	Bus. & Prof. Writ.	.....5	SP 231	Public Speak.	.....5
TT 406	Textile Costing	.....5	TT 405	Warp Preparation	.....5	TT 422	Synthetic Fiber I	.....5
TT 431	Fabric Analysis	.....3		Group Elective	.....5	TT 412	Textile Mgt.	.....3
	Group Elective	.....5		Gen. Elective or			Group Elective	.....5
	Gen. Elective or			Military Training	.....3		Gen. Elective or	
	Military Training	.....3					Military Training	.....3

Total—234 quarter hours

All Textile Science students will take the above curriculum with one of the 30 hour group electives below in accordance with interest and professional needs. Substitutions may be made with approval of the Department Head.

GROUP ELECTIVES

TEXTILE PHYSICS

TEXTILE CHEMISTRY

EE 304	Elec. Circuits	.....5	CH 205	Qual. Analysis	.....5
ME 310	Thermodynamics	.....5	CH 207	Organic Chemistry	.....5
PS 302	Electronics	.....5	CH 208	Organic Chemistry	.....5
PS 304	Applied Spectroscopy	.....5	CH 316	Physical Chemistry	.....5
PS 305	Modern Physics	.....5	TT 317	Dyeing & Finishing	.....5
TT 321	Weav. & Design III	.....5	TT 426	Synthetic Fibers II	.....5

School of Home Economics

MARION SPIDLE, *Dean*

THE SCHOOL OF HOME ECONOMICS offers young people a balanced education. The curriculum includes liberal arts, professional, and technical courses. It offers the student preparation for her role as a homemaker, professional education in one of five major subject matter fields and technical education for highly specialized fields. Students in other schools on campus may elect a minor in any of the fields of Home Economics. All courses are open to both men and women students.

When a student enters college she is assigned an adviser from the Home Economics faculty. This adviser serves in a private and personal capacity as well as professional and usually serves until the junior year. When the student decides in which special subject matter field of Home Economics she expects to major, she is assigned an adviser in the field of her specialization. Among other things her adviser will help her decide how to wisely use her elective hours. She may use these electives to strengthen majors or minors (18 quarter hours) in any field that will develop her capacities and fit her for whatever she may choose to do. Some recommended fields for a minor are art, business administration, chemistry, economics, education, foreign languages, journalism, and sociology.

In the junior year, each student is required to make a block schedule of the last two years' work, including recommended minors. This outline must be transmitted to the dean of the school before the student registers for her junior year of work. At this time it is the student's responsibility to reserve a place in one of the Home Management Houses for the appropriate quarter.

A total of 215 credit hours is required for graduation in all majors except Nursing Science. Here the requirement is 162 hours plus residence work in an accredited school of nursing.

The School of Home Economics is divided into subject matter departments. A graduate from this school receives a Bachelor of Science Degree in Home Economics with a major in one of the following:

I. Clothing and Textiles

which leads to fields of work in retailing and styling, journalism, teaching, textile testing and research. The elective hours are planned to provide further training in journalism, business administration, education, chemistry, or other subjects required in these various fields.

II. Foods and Nutrition

which gives the student opportunities to prepare for service as dieticians in hospitals, colleges, public school lunchrooms, in tea rooms and cafeterias: for food production, preparation with commercial firms, and for service in the many social organizations.

III. Home Management and Family Economics

prepares students for positions with Public Utilities, T.V.A., Farmers Home Administration, equipment manufacturers and distributors, and other types of adult education as well as training leaders in all socio-

economic fields covered in Agricultural Extension Service. The program is also designed for full-time homemakers.

IV. Family Life and Early Childhood Education

which prepares students for work in fields in which knowledge of child development and skills in guidance are essential, such as: nursery schools, kindergartens, extended school services, child welfare, parent education programs, and guidance of children in the family. A minor in Education qualifies the student for teaching Home Economics.

V. Nursing Science

which with three years of work on the campus and satisfactory completion of resident work at an accredited school of nursing leads to a B.S. degree and a certificate of a graduate Registered Nurse. It provides a specially valuable background of knowledge of nutrition and homemaking problems combined with nursing for a student interested in public health.

Graduate Work

The School of Home Economics offers work leading to the Master of Science degree, and to the professional degree, Master of Home Economics. For further information consult the Home Economics course descriptions and the graduate catalog.

Nursery School and Kindergarten Laboratories

The Nursery School operates from 9:00 a.m. to 1:00 p.m. for children from 3 to 4½ years of age. The Kindergarten, for the five year group, operates from 1:00 p.m. to 4:00 p.m.

An Auxiliary Nursery School for children of college students operates from 9:00 a.m. to 12:00 noon. Admissions are made from waiting lists in order of their entry. Applications should be made to the Chairman of the Nursery Schools and Kindergarten, Telephone TU 7-6511 - Extension 263.

Basic Curriculum for all Freshmen and Sophomores in Home Economics (HE)

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH 101	English Comp. ....5	EH 102	English Comp. ....5	CH 103	Gen. Chemistry .....4
HE 100	Freshman Prob. ....3	HE 102	Foods I .....5	CH 103L	Gen. Chem. Lab. ..1
HE 104	Related Art .....5	MH 107	College Algebra* ....5	EH 253	Lit. in English .....5
PW 111	Hygiene .....1	PW 112	Hygiene .....1	HE 105	Clothing I .....5
LY 101	Library Science .....1	PW	Physical Education ..1	PW 113	Hygiene .....1
PW	Physical Education ..1			PW	Physical Education ..1

SOPHOMORE YEAR

CH 104	Gen. Chemistry .....4	CH 203	Organic Chem.** or	CH 304	Biochemistry** or
CH 104L	Gen. Chem. Lab. ..1	HY 208	World History .....5	HE 233	Home Equip.*** ....5
EC 211	Accounting** or	PG 211	Gen. Psychology .....5	HE 202	Foods II .....5
HE 205	Clothing II .....5	PS 207	Physics .....5	VM 210	Physiology .....5
SY 201	Sociology .....5	SP 305	Public Speaking .....3	JM 315	Ag. Journalism .....3
HE 207	Intro. Child Dev. ....3	PW	Physical Education ..1	PW	Physical Education ..1
PW	Physical Education ..1				

* MH 107 required of all majors—Pr. for CH 103, and 103L.

** Required of Foods and Nutrition majors only.

*** HE 215 to be scheduled by Clothing majors.

Suggested minors in Speech, Journalism or combination of both. (Consult your Advisor before scheduling SP 305 or JM 315.)

Public Speaking, Radio, and Television: SP 231, 273, 331 and 337, or 231, 337, 437 and 385. News writing, Reporting, Copyreading and Editing and Feature writing: JM 221, 223, 224 and 322.

Combination minor: JM 221, SP 231, or Workshop, JM 322, SP 337 or SP 305.

Curriculum for Majors in Clothing and Textiles

JUNIOR YEAR

FIRST QUARTER

HE 303	House I	.....5
HE 325	Fund. of Retail.	.....5
VM 311	Bacteriology	.....5
HE 372	Nutr. & Health	.....3

SECOND QUARTER

EC 200	General Econ.	.....5
HE 315	Textiles	.....5
	Social Sc. Elective or	
PG 212	Ed. Psychology	.....5
HE 345	Handicrafts	.....3

THIRD QUARTER

HE 323	Home Mgt.	.....5
	Elective	.....5
	Prof. Elective	.....5
HE 305	Tailoring	.....3

SENIOR YEAR

HE 407	Growth & Dev. of Young Children	.....5
HE 415	History of Text.	.....5
HE 443	Home Mgt. Res.	.....5
HE 431	Senior Seminar	.....3

HE 425	Hist. of Costume	.....5
HE 435	Textile Testing	.....5
	Prof. Elective	.....5
	Elective	.....3

HE 313	Home Furnishings	.....5
HE 405	Creative Costume Design	.....5
	Prof. Elective	.....5
	Elective	.....3

Electives must be chosen from one field to make a strong minor; suggested minors are Art, Chemistry, Economics, Education, Journalism, or Textile Technology.

HE 335 Retail Training (8 cr.) must be scheduled by students electing to minor in Retailing.

Total—215 quarter hours

Curriculum for Majors in Foods and Nutrition

JUNIOR YEAR

FIRST QUARTER

HE 412	Large Quan. Ckry.	.....5
HE 355	Textile Buying	.....3
HY 208	World History	.....5
	Elective	.....5

SECOND QUARTER

EC 200	General Econ.	.....5
HE 332	Nutr. & Diet. I	.....5
HE 352	Inst. Organization	.....3
VM 311	Bacteriology	.....5

THIRD QUARTER

HE 302	Table Service	.....3
HE 323	Home Mgt.	.....5
HE 342	Nutr. & Diet. II	.....5
PG 212	Ed. Psychology or Elective	.....5

SENIOR YEAR

HE 402	Diet Therapy	.....5
HE 407	Growth & Dev. of Young Children	.....5
HE 442	Catering	.....3
	Elective	.....5

FL	French or German	.....5
HE 322	Food Preservation	.....3
HE 432	Cafeteria Mgt.	.....5
	Elective	.....5

FL	French or German	.....5
HE 443	Home Mgt. Res.	.....5
HE 462	Exp. Cookery	.....5
HE 431	Senior Seminar	.....3

Total—215 quarter hours

Curriculum for Majors in Home Management and Family Economics

JUNIOR YEAR

FIRST QUARTER

EC 200	Gen. Economics* or	
EC 201	Princ. & Prob. of Economics	.....5
HE 313	Home Furnishings	.....5
HE 372	Nutr. & Health	.....5
HE 304	Home & Fam. Life	.....3

SECOND QUARTER

HE 303	House I	.....5
VM 311	Bacteriology	.....5
HE 325	Consumer Textiles	.....3
	Elective	.....5

THIRD QUARTER

HE 323	Home Mgt.	.....5
HE 353	Com. & Family Health	.....3
PG 212	Ed. Psychology or Soc. Sci. Elective	.....5
	Elective	.....5

SENIOR YEAR

HE 322	Food Preservation	.....3
HE 345	Handicraft	.....2
HE 407	Growth & Dev. of Young Children	.....5
HE 431	Senior Seminar	.....3
	Elective	.....5

HE 401	Extension Organi- zation & Methods	.....5
HE 433	Food Equipment	.....5
HE 453	The Consumer and the Market	.....5
	Elective	.....3

HE 417	Guid. of Young Children	.....5
HE 463	Family Eco.	.....5
HE 343	Furn. Renovation	.....3
	Elective	.....5

* Consult your Adviser before scheduling Economics.

Minor in Economics—Students who take a minor in Economics will take the following courses:
EC 202, EC 211-12, EC 345 (Alternative: MH 127 or BY 401), EC 451 or EC 446.

Total—215 quarter hours.

Curriculum for Majors in Family Life and Early Childhood Education

JUNIOR YEAR

FIRST QUARTER

HE 303	House I	5
HE 407	Growth & Dev. of Young Children	5
VM 311	Bacteriology	5
HE 304	Home & Fam. Life 3	

HE 443	Home Mgt. Res.	5
PG 345	Child Psychology	5
SY 301	Sociology of the Family	5
HE 431	Senior Seminar	3

SECOND QUARTER

EC 200	General Economics ..	5
HE 417	Guid. of Young Children	5
HE 313	Home Furnishings ..	5
PY 309	Public Health	3

SENIOR YEAR

HE 437	Spec. Prob. in Ch. Dev. & Kinder. Ed ..	5
HE 452	Food for Young Children	5
	Elective	8

THIRD QUARTER

HE 323	Home Mgt.	5
HE 372	Nutr. & Health	3
PG 212	Ed. Psychology	5
	Soc. Sc. Elective	5

ED 421	Basic Social Program of the Elem. Grades 5	
HE 447	Nurs. Scho. & Kinder. Proc.	5
HE 422	Community Nutr. ..	3
	Elective	5

Electives must be chosen to build a strong minor in Economics, Education, Psychology, Sociology, Speech, or Journalism.

Total—215 quarter hours.

Curriculum for Majors in Nursing Science (NS)

FRESHMAN YEAR

FIRST QUARTER

MH 107	College Algebra	5
HE 100	Freshman Problems 3	
HE 102	Foods I	5
PW 110	Hygiene	3
PW	Physical Education ..	1

VM 220	Human Anatomy & Physiology	5
CH 203	Organic Chemistry ..	5
EH 253	Lit. in English	5
HE 306	Personal Grooming ..	3
PW	Physical Education ..	1

SECOND QUARTER

EH 101	English Comp.	5
CH 103	Gen. Chemistry	4
CH 103L	Gen. Chem. Lab. ..	1
ZY 101	General Zoology	5
HY 205	Current Events	1
PW	Physical Education ..	1

SOPHOMORE YEAR

CH 204	Biochemistry	5
VM 221	Human Anatomy & Physiology	5
EH 141	Medical Vocabulary 5	
SP 305	Public Speaking	3
PW	Physical Education ..	1

THIRD QUARTER

EH 102	English Comp.	5
CH 104	Gen. Chemistry	4
CH 104L	Gen. Chem. Lab. ..	1
HY 107	American History ..	5
LY 101	Library Science	1
PW	Physical Education ..	1

EC 200	Gen. Economics	5
SY 201	Sociology	5
PS 207	Physics	5
	Elective	3
PW	Physical Education ..	1

JUNIOR YEAR

PG 211	Gen. Psychology	5
HE 342	Nutr. & Dietetics ..	5
HE 407	Growth & Dev. of Young Children	5
HE 352	Inst. Organization ..	3

HE 402	Diet Therapy	5
HE 417	Guid. of Young Children	5
PY 304	Public Health or Elective	5
	Elective	3

NOTE: Upon satisfactory completion of these three years at Auburn University totaling 162 quarter hours and upon the satisfactory completion of residence work at an accredited school of nursing, the student will be recommended for the B.S. degree.

School of Military Science and Tactics

COLONEL JOHN LOCKETT

Commandant and Professor of Military Science and Tactics

STUDY OF Military Science and Tactics at Auburn University dates back to the Civil War Period. The Morrill Land Grant Act of 1862 requires that military instruction be furnished to students. Instruction in Military Science and Tactics is under the supervision of an officer of the Regular Army who is detailed as Professor of Military Science and Tactics. By appointment of the college authorities he is Commandant of the ROTC students. The Professor of Military Science and Tactics is assisted by a staff of commissioned and non-commissioned officers of the Army. The curriculum in Military Science and Tactics is divided into two courses, basic and advanced. A description of course requirements is discussed in the following paragraphs.

Basic Course

The basic course consists of a six quarter common subjects course normally taken during the freshman and sophomore years. Four hours of instruction are taken each week, two classroom periods and two drill periods. One credit hour is allowed for each quarter of the basic course. Successful completion of the basic course in Military, Air or Naval Science is required of all male students except as noted on page 72.

Advanced Course

The Advanced Course is designed to produce officers for the Army of the United States, both the Active Army and the Reserve. Successful completion of the advanced course at Auburn University qualifies the student for a commission as 2nd Lieutenant in either the Artillery, Corps of Engineers, Armor, or the Signal Corps branches, USAR. Students who complete the Advanced Course and are designated Distinguished Military Graduates may apply for a commission in the Regular Army. Others may apply during or after their active duty as officers. The advanced course consists of a six quarter course, normally taken during the junior and senior years, designed to familiarize the student with one of the branches mentioned above. Three credit hours are allowed for each quarter of the advanced course. For limitation on credit allowed toward meeting degree requirements, see engineering curricula. Students are paid at the rate of 90 cents per day, not to exceed 595 days, while enrolled in the Advanced Course.

A summer camp of six weeks duration must be attended by the student before he becomes eligible for a commission. Summer camp is normally attended during the summer between the end of the junior and the start of the senior years. While attending summer camp students are paid \$78.00 per month. Reimbursement to the students for travel expenses is made at a rate of five cents per mile to and from camp. Uniforms, quarters and rations are furnished by the government during the camp period. The qualifications for the advanced course are:

1. United States citizenship.
2. Be physically qualified in accordance with standards prescribed by the Department of the Army.
3. Not have reached 28 years of age at time of appointment in the U. S. Army Reserve.
4. Have completed appropriate basic training (2 years Basic ROTC) or have equivalent credit in lieu thereof; have at least two (2) academic years to complete prior to graduation.
5. Have minimum overall academic average of 1.0.
6. Be selected by the Professor of Military Science and Tactics and the head of the institution.
7. Execute a written agreement with the Government to complete the two-year Advanced Course training and to attend one Summer Camp (six weeks duration) preferably at the end of the first year of the Advanced Course.
8. Veterans enrolled at Auburn University who have received equivalent credit for six (6) quarters of basic ROTC may apply for the Advanced Course upon completion of sophomore academic year.

Army ROTC Aviation Program

Certain qualified MS IV cadets may apply for enrollment in the Army ROTC Flight Training Program, subject to quota limitations. This course is conducted at no expense to the student. Participation in the program will not act to cause any reduction in the prescribed MS IV course. The course is an approved CAA standardized flight instruction program consisting of 35 hours ground instruction and 36½ hours flight training. Satisfactory completion of the program of instruction will qualify the graduates for award of a CAA Private Pilot's certificate. Students must agree to an extended period of active duty of three years, or for two years subsequent to completion of the Army Aviation School, whichever period is shorter.

Uniforms and Equipment

All students are required to deposit the sum of thirty dollars with the Bursar of the University, prior to enrollment in the ROTC. They are then furnished a uniform and other necessary supplies through the ROTC Supply Office. Upon completion of the ROTC Course of instruction, or upon withdrawal of the student therefrom, the uniform and other supplies are turned in and the deposit returned to the student, less \$1.50 per quarter withheld by the Bursar of the University to cover the cost of cleaning and repair of uniforms, purchase of instructional matter, scholastic and marksmanship awards, streamers, citation cords and special apparel for competitive drill team. Cadets enrolled in the advanced course are provided with a tailored uniform rather than one issued from stock.

Distinguished Military Students

The Professor of Military Science and Tactics may designate as a Distinguished Military Student a person who:

1. Possesses outstanding qualities of leadership, high moral character, and definite aptitude for the military service.
2. Has attained an academic standing in the upper half of his class. An exception may be made only in the case of an individual student whose stand-

ing is in the upper 10 per cent of his class in military subjects, or who has shown exceptionally high motivation toward a military career.

3. Has demonstrated his leadership ability through his achievements while participating in recognized campus activities.

4. Has attained a class standing in the upper third of his ROTC class in the Advanced Course, Senior Division, ROTC.

Distinguished Military Students may make application for a commission in the Regular Army at the beginning of their 2nd year Advanced Course and if accepted they would be commissioned in the Regular Army upon graduation from college as a Distinguished Military Graduate.

Distinguished Military Graduates

The Professor of Military Science and Tactics may designate as a Distinguished Military Graduate a person who was designated a Distinguished Military Student and who has maintained the high academic standards between the time of such designation and date of commission and graduation.

Selective Service Deferments

Students enrolled in the advanced Army ROTC program will be deferred under the provisions of the Selective Service Extension Act of 1951, as follows:

1. Students so deferred are required to sign an ROTC deferment agreement. The provisions of the agreement require the student to complete the basic course, if enrolled therein, to enroll in and complete the advanced course at the proper time, if accepted therefor; and upon completion of the course of instruction therein, to accept a commission, if tendered.

2. The Department concerned will notify the appropriate local Selective Service Board concerning students who have been selected for deferment. Deferment by the local board in such cases is mandatory. Students dropped from ROTC, not in good scholastic standing, or not considered potential advanced course students, will no longer be deferred.

3. Students who decline to fulfill the terms of their ROTC deferment agreements pertaining to undergraduate work at the institution will be permanently suspended immediately.

School of Naval Science

COLONEL JOHN F. DUNLAP, USMC
Commanding Officer and Professor of Naval Science

THE NAVAL RESERVE Officers Training Corps is established under authority of Section 22 of the Act of March 4, 1925 as amended (34 U.S. Code, Sup. 821; Public Law 729, 79th Congress, as amended by Public Law 71 and 381, 80th Congress).

A Captain in the Navy or a Colonel in the Marine Corps is assigned as the Professor of Naval Science. He is assisted by commissioned officers and others detailed from the Navy and Marine Corps.

The purpose of NROTC is to provide a steady supply of well-educated junior officers for the line and staff corps of the Regular Navy and to build up a reserve of trained officers who will be ready to serve their country at a moment's notice in a national emergency. NROTC graduates are given equal rank, equal treatment, and equal opportunities with the graduates of the United States Naval Academy.

Types of NROTC Students

Students in the NROTC are of three types:

- (a) **Regular NROTC Students** are appointed Midshipmen, USNR. Such students assume an obligation to make all required summer practice cruises and to serve, at the discretion of the Secretary of the Navy, four years on active duty after commissioning as Ensign, U.S. Navy, or Second Lieutenant, U.S. Marine Corps, unless sooner released by the Secretary of the Navy. They may remain as career officers in the regular Navy or Marine Corps.

The Regular program briefly described above is one of the most remarkable educational opportunities ever offered. Public Law 729, signed by the President on 13 August 1946, commonly known as the Holloway Plan, instituted the selection and training of officer candidates for the Navy and Marine Corps in colleges and universities throughout the country. In the annual nation-wide selection of NROTC Students who will be enrolled in college in the Fall of each year, about ten per cent of the quotas will be filled by Navy and Marine Corps enlisted personnel. All others will be chosen directly from civilians from the United States and its territories.

For the Regular student the cost of tuition, fees, and textbooks will be paid by the Government. Necessary uniforms will be provided by the Government and students will receive retainer pay for other expenses during college at the rate of \$600 per year. Normally students will attend college for four years. While in college they may take any course leading to a baccalaureate or higher degree except the following: Pre-Medicine, Medicine, Pre-Dental, Dentistry, General Agriculture, Dairy Production, Soils, Wildlife Management, Soil Conservation, Hotel Administration, Anthropology, Pre-Veterinary, Veterinary Medicine, Pre-Theological, Theology, Agronomy, Dairy Manufacturing, Horticulture, Real Estate, Religion, Landscape Architecture, Physical Education, Pharmacy, Music, Art, Law, Poultry Husbandry, Dairy Husbandry, Floriculture, Animal Science, Entomology, Dramatics, Industrial Arts, Animal Husbandry. Regular ROTC students are required to take, in

addition to the requirements of their major, 33 quarter hours of Naval Science; they must complete one year of college mathematics and one year of physics by the end of their sophomore year. Also, in order to strengthen the courses in Principles and Problems of Leadership (NS 412 and NS 413), a minimum of 3 hours in Psychology is required as a prerequisite. Toward meeting this requirement, PG 311 — Behavior of Man, 3 hours, will be scheduled as an additional requirement for all NROTC students to qualify for a commission and must be completed prior to the end of their Junior year. An exception to this rule will be made in the case of NROTC students whose curriculum requires PG 211 — General Psychology, and completion of this course will be considered as meeting requirements as stated above.

They will be required to make two summer cruises and take one summer period of aviation-amphibious indoctrination, lasting from six to eight weeks each, and upon graduation must accept a commission as Ensign, USN, or Second Lieutenant, USMC, if offered. During the third year of active duty they will be given a chance to apply for a permanent commission in the regular Navy or Marine Corps. If they do not choose a career in the regular Navy or Marine Corps, they will be required to accept a commission in the Naval Reserve or Marine Corps Reserve, such commission not to be resigned prior to the sixth anniversary of receiving their first commission. Except at their own request reserve officers are not called to active duty except during war or national emergency.

Entrance to this Regular program described above is effected through the medium of nation-wide competitive examination given by the Naval Examining Section, Science Research Associates, McHenry, Illinois, during December of each year for selection of NROTC students to enter the Regular program for the following Fall. Application blanks to take the examination and information bulletins describing this program are made available each Fall at all high schools, colleges, and Offices of Naval Officer Procurement. For more complete details, contact the Professor of Naval Science of this university.

- (b) **Contract NROTC** students have the status of civilians who have entered into a mutual contract with the Navy. They are not entitled to the compensation or benefits paid Regular NROTC students except that they are entitled to a uniform issue, payment of commutation of subsistence during their final two years of NROTC training, and practice cruise compensation. Contract NROTC students, if in all respects qualified, are commissioned as Reserve officers in the United States Navy or Marine Corps upon successful completion of the course. They are required to serve on active duty for a period of two years and to retain their commission for a total period of six years, unless sooner released by the Secretary of the Navy. They may receive commissions as Regular officers in the United States Marine Corps, if accepted under current quotas, and will have the same options of service, including retention as career officers, that Regular NROTC students have.

Contract students also will normally remain in college four years. While in the university, a Contract student may take any curriculum which leads to a baccalaureate or higher degree. This does not, however, entitle the student to any delay of active duty requirements after attaining the basic requirements for a baccalaureate degree and commissioning. In addition to the requirements of their major and 33 quarter hours of Naval Science, Contract students must complete satisfactorily by the end of their second year in the program one of the following requirements: (a) Mathematics through trigonometry (in secondary school or college); or (b) One quarter of college mathematics. Contract NROTC students must also meet the same requirement of Psychology as

indicated above for Regular NROTC students. Contract students are required to make only one cruise, normally between the junior and senior years. During this training period, Contract students will be paid as prescribed for enlisted men of the first pay grade of the Navy (\$78 per month at present). During their junior and senior years in the NROTC Program, Contract students are eligible to be furnished commutation of subsistence. The amount of this subsistence is approximately \$27 per month.

- (c) **Naval Science Students:** With the approval of the academic authorities, a limited number of students who are ineligible for enrollment in the NROTC may be permitted to pursue Naval Science courses for college credit. They are not eligible to make NROTC cruises nor to be paid compensation or benefits.

Equipment

Uniforms, Naval Science textbooks, and other equipment necessary to the Navy program will be furnished by the Government to Regular and Contract students. The uniform will be worn only when engaged in drills or other Naval activities prescribed by the Professor of Naval Science.

General Qualifications for Enrollment

In general, each candidate for enrollment in the NROTC must meet the following requirements:

1. Be an unmarried male citizen of the United States, never have been married, and agree to remain unmarried until commissioned or disenrolled.
2. Have attained his 17th birthday on or before July first of the year of enrollment and be of such age that he will not have attained his 25th birthday before July first of the year he will be commissioned (i.e., not over 21 on July first for initial enrollment at the beginning freshman level unless contemplating a curriculum which takes five years to complete, in which case he will not have passed the 20th anniversary of his birth on July first for initial enrollment at the beginning freshman level). The Professor of Naval Science is authorized to waive the minimum age requirement for Contract Students of the freshman class in those cases where he considers the student of sufficient maturity to undertake the Naval Science courses and drills.
3. Be morally qualified and possess officer qualifications and character as evidenced by appearance, scholarship, extra-curricular activities, and record in his home community.
4. Be at least a high school graduate or person of equivalent educational level if selected competitively; or be enrolled in good standing and attending an NROTC institution if selected by the Professor of Naval Science.
5. Be physically qualified in accordance with the current manual of the Medical Department requirements for entrance into the Naval Academy.
6. Any person receiving compensation from the United States Veterans Administration for disability incurred in the naval or military service of the United States, or who has any claim pending under the Bureau on account of such disability, is not eligible for enrollment in the NROTC.
7. A citizen of the insular possessions of the United States, unless he has been legally admitted as a citizen of the United States, is not eligible for membership in NROTC.
8. A Contract student who is also a member of a Naval Reserve Unit is entitled to receive payments on account of subsistence and transportation as an NROTC student concurrently with pay provided for drills performed by a reservist while in an inactive duty status. He may not receive subsistence

as a Contract student concurrently with the active or training duty pay of a reservist.

Selective Service Deferments

1. Regular and Contract Midshipmen are draft deferred under the Selective Service Extension Act of 1951 from the time of executing their oath of office or contract.

2. Midshipmen dropped from the program become eligible for draft immediately upon separation from the NROTC.

3. The Department of Naval Science will keep the appropriate local draft board informed as to the status of each midshipman under paragraphs 1 and 2 above.

4. Midshipmen declining to fulfill the terms of their NROTC deferment agreement pertaining to undergraduate work will be permanently suspended immediately.

Curriculum

The Naval Science Curriculum consists of five hours per week for all courses with exception of the sophomore courses which consist of four hours per week. Two hours each week are spent on practical work or drill. The remaining hours per week are spent in classroom work. The Naval Science subjects carried during the four-year curriculum are listed below.

FIRST YEAR

1st Qtr. Naval Orientation (NS 111)
2nd Qtr. Sea Power (NS 112)
3rd Qtr. Sea Power (NS 113)

SECOND YEAR

1st Qtr. Naval Weapons (NS 211)
2nd Qtr. Naval Weapons (NS 212)
3rd Qtr. Naval Weapons (NS 213)

(U. S. N. Candidates)

THIRD YEAR

1st Qtr. Naval Engineering (NS 311)
2nd Qtr. Naval Engineering and Introduction to Navigation (NS 312)
3rd Qtr. Navigation (NS 313)

FOURTH YEAR

1st Qtr. Naval Operations (NS 411)
2nd Qtr. Naval Operations and Introduction to Principles and Problems of Leadership (NS 412)
3rd Qtr. Principles and Problems of Leadership (NS 413)

(U. S. M. C. Candidates)

THIRD YEAR

1st Qtr. Evolution of the Art of War (NS 321)
2nd Qtr. Evolution of the Art of War (NS 322)
3rd Qtr. Modern Basic Strategy and Tactics (NS 323)

FOURTH YEAR

1st Qtr. Amphibious Warfare Part I (NS 421)
2nd Qtr. Amphibious Warfare Part II (NS 422)
3rd Qtr. Leadership, The Uniform Code of Military Justice (NS 423)

Each of the above subjects carries 3 quarter hours of credit, with the exception of the sophomore courses which carry 2 quarter hours of credit. These hours of credit will be cleared as a part of the prescribed quarterly load in which they are taken, with graduation requirements for Naval Science students being increased accordingly.

Distinguished NROTC Graduates

The Professor of Naval Science may designate as a Distinguished NROTC Graduate any candidate who possesses outstanding qualities of leadership, high moral character, a definite aptitude for the naval service, and who has distinguished himself in his chosen academic major.

In order to qualify for this designation, a candidate must achieve an academic standing in his major field equivalent to "graduation with honor" and must also achieve an equivalent standing in aptitude and Naval Science subjects.

School of Pharmacy

SAMUEL TERRY COKER, *Dean*

THE SCHOOL OF PHARMACY is a member in good standing of the American Association of Colleges of Pharmacy, the object of which is to promote pharmaceutical education. It is also fully accredited by the American Council on Pharmaceutical Education, the object of which is to formulate the educational, scientific and professional principles and standards which approved Schools of Pharmacy are expected to meet and maintain.

Opportunities In Pharmacy. — The thorough academic and scientific background provided by the five-year curriculum enables students to pursue a variety of courses. Those interested in business will find retail or wholesale pharmacy suited to their needs, while those with administrative ability are able to go into hospital pharmacy or public health work. If a career in scientific research is desired, the scientific option may be elected by those qualified. Those interested in sales or sales research will find pharmacy an adequate background in qualifying as a sales representative for pharmaceutical manufacturers. Many graduates are in government service as narcotics inspectors, food and drug chemists, and toxicologists. Pharmacy, especially hospital pharmacy, offers a wonderful opportunity for women. These are but a few of the many opportunities that await registered pharmacists of the future and suggest why a career in pharmacy may merit your serious consideration.

The Pharmacy Curriculum. — The five-year curriculum leading to the degree of Bachelor of Science in Pharmacy is designed to prepare students for the many and varied opportunities available. The curriculum also offers opportunity for students to include cultural subjects helpful in preparing for their role in the social, cultural and political life of the community.

Students are admitted to the curriculum in pharmacy by an Admissions Committee after successfully completing with acceptable grades one of the following prescribed pre-pharmacy programs.

1. **The 1-4 Plan** — includes one year of pre-pharmacy, which may be taken in the first year of the School of Pharmacy at Auburn or any accredited institution offering the prescribed courses. Students taking pre-pharmacy at Auburn will be on the 1-4 plan.

2. **The 2-3 Plan** — includes two years of prescribed pre-pharmacy courses at an accredited institution prior to transferring to Auburn. A minimum of nine quarters is then required in the School of Pharmacy.

After completing the third year, students must choose a professional option in preparation for general practice, including hospital pharmacy, or a scientific option in preparation for industry, medical school, research or teaching. The program of each student under either option must be approved by the advisor and those choosing the scientific option must have the approval of the Dean. Both options will adequately prepare students for State Board examinations. It is hoped that these options will motivate the superior student to achieve an educational level consistent with his ability.

Approved electives should be chosen equally between professional or scientific and the liberal arts subjects.

Students who are qualified and have the prerequisites may take up to ten

hours of graduate courses in their fifth year. Registration in graduate courses must be approved by the Dean of the Graduate School, but such work cannot be applied toward both the undergraduate and graduate degrees.

Attention is called to the following regulation of the American Council on Pharmaceutical Education: "No student may graduate from a recognized college or school of pharmacy who has spent less than three scholastic years of nine quarters or six semesters in residence at said college or school." Transfer students will receive no more than 103 quarter hours credit for work completed at this or other institutions in a non-pharmacy curriculum.

Students who transfer from Colleges of Pharmacy approved by the American Council on Pharmaceutical Education will be granted full credit for all work passed with acceptable grades at such institutions.

Scholarships and Loans.—Information concerning available scholarships and loans may be obtained by writing to the Chairman, Auburn University Scholarship Committee, Auburn, Alabama.

Curriculum in Pre-Pharmacy (P-PY)

FIRST QUARTER			FIRST YEAR			THIRD QUARTER		
			SECOND QUARTER					
CH 103	General Chemistry	..4	CH 104	General Chemistry	..4	BY 205	Pharmaceutical	
CH 103L	Gen. Chem. Lab.	..1	CH 104L	Gen. Chem. Lab.	..1		Botany	.....5
EH 101	English Comp.	.....5	EH 102	English Comp.	.....5	CH 205	Qual. Analysis	.....5
MH 111	Intr. College Math.	5	MH 112	Intr. College Math.	5	HY 107	American History	.....5
MS	Military Training	....1	MS	Military Training	....1	MS	Military Training	....1
PE	Physical Education	..1	PE	Physical Education	..1	PE	Physical Education	..1

Curriculum in Pharmacy (PY)

SECOND YEAR		
CH 206 Quant. Analysis .....5	EC 200 Gen. Economics .....5	PS 206 General Physics .....5
PY 101 Introd. to Pharm. ....3	PS 205 General Physics .....5	PY 102 Pharmaceutical Arithmetic .....5
SY 201 Introd. to Sociology, or	ZY 101 Zoology .....5	ZY 102 Zoology .....5
PG 211 Gen. Psychology .....5	MS Military Training ....1	MS Military Training .....1
MS General Elective .....3	PE Physical Education ..1	PE Physical Education ..1
MS Military Training ....1		
PE Physical Education ..1		
THIRD YEAR		
CH 207 Organic Chem. ....5	CH 208 Organic Chem. ....5	EC 211 Intro. Acct. ....5
PY 201 Inorganic Pharmaceutical Chem. ....5	EH 345 Business & Prof. Writing, or	PY 203 Pharmacology I .....5
VM 200 Gen. Microbiology ..5	EH 390 Advanced Comp. ....5	PY 204 Pharmaceutical Technology .....5
Approved Elective ...3	VM 204 Pathogenic Microbiology .....5	PY 205 Drug Marketing .....3
	PY 202 Pharmaceutical Terminology .....2	
FOURTH YEAR ^o		
†CH 301 Biochemistry .....5	PY 303 Pharmaceutical Technology .....5	CH 316 Physical Chem. ....5
PY 301 Organic Pharmaceutical Chem. ..5	†PY 306 Elementary Pharmacognosy .....5	or
PY 300 Public Health .....5	PY 302 Organic Pharma. Chemistry .....5	PY 304 Physical Pharm. ....4
Approved Elective ...3	Approved Elective ...3	PY 305 Pharmaceutical Jurisprudence .....2
		†PY 307 Pharmacognosy .....5
		Approved Elec. ...5-6
FIFTH YEAR		
PY 400 Disp. Pharmacy I ..5	†PY 408 Pharmaceutical Economics .....5	PY 403 Toxicology & First Aid .....5
PY 405 Pharmacology II ....5	PY 406 Pharmacology III ..5	†PY 402 Disp. Pharmacy III 5
PY 404 Chemistry of Nat. Products .....5	PY 401 Disp. Pharmacy II ..5	†PY 407 Chemotherapeutic Drugs .....3
		Approved Elective ..5

Total—256 quarter hours

^o Options must be chosen at the beginning of the fourth year.

Advanced R.O.T.C. may be used as approved electives in the fourth and fifth years.

† With consent of the adviser and approval of the Dean those electing the scientific option may substitute courses of equal credit for these subjects.

APPROVED ELECTIVES: PROFESSIONAL OR SCIENTIFIC

PY 206 History of Pharmacy	3	PY 431 Advanced Pharmacology	5
PY 308 Hospital Pharmacy Administration	3	PY 440 Histology of Natural Products	3
PY 409 Applied Hospital Pharmacy	3	PY 441 Commercial Pharmacognosy	3
PY 410 Advanced Dispensing Pharmacy	5	CH 316 Physical Chemistry	5
PY 411 Survey of Mfg. Pharmacy	3	CH 418-19-20 Biochemistry Lec. 4,	
PY 412 Public & Prof. Relations	3	Lab. 4	5-5-5
PY 413 Special Problems	1-3	HE 372 Nutrition & Health	3
PY 420 Pharmaceutical Assay	5	ZY 301 Comparative Anatomy Lec. 3,	
PY 421 Advanced Inorganic Pharma-		Lab. 6	5
ceutical Chemistry	5	ZY 302 Vertebrate Embryology Lec. 3,	
PY 430 Pharmacological Techniques	5	Lab. 6	5

GENERAL

An approved list will be made available at registration.

School of Science and Literature

ROGER W. ALLEN, *Dean*

THE SCHOOL OF SCIENCE AND LITERATURE is the oldest school of Auburn University and offers work in various lines leading to the Bachelor of Science and Bachelor of Arts degrees. It is the only school on the campus which had its origin when Auburn was a denominational institution. For many years it was known as the Academic Faculty and the work offered has been referred to as the General Course. The State of Alabama assumed charge of Auburn in 1872 and the work then offered which is now retained in the curriculum is administered by the School of Science and Literature. Throughout the history of the institution this school has played an important part. It is composed of nine departments in which instruction is offered by more than 175 faculty members.

The School of Science and Literature has a two-fold purpose. It is a distinct school and as such is coordinate with the other schools of the university. In this capacity it offers work designed to equip the student with a broad and liberal education and thereby enable him to care for himself better and to discharge more effectively the duties of a citizen. A second purpose of the School of Science and Literature is to function as the service division of the university.

Degree Courses

The Departments of Economics and Sociology, English, Foreign Languages, History, Mathematics, Philosophy, Physics, Secretarial Training, and Speech are in the School of Science and Literature. In general, the curricula offered in this school are based on various combinations of courses presented by these departments, but in some of the curricula certain courses are required which are offered by other schools of the university.

Outlines of all work required in the curricula in Business Administration, Mathematics, Physics, Pre-Dentistry, Pre-Law, Pre-Medicine, Pre-Veterinary Medicine, Secretarial Training, and Science and Literature are recorded in detail on pages 178-183 inclusive.

In the other curricula offered in this school the work required in the freshman and sophomore years is recorded on pages 177-178. During the junior and senior years the student must complete a major of seven five-hour courses and two minors of three five-hour courses each or a double minor of six five-hour courses. Any course to be counted in the major and minors must be numbered 200 or above. Required sophomore courses are not counted on the majors and minors. The work constituting the major must be elected from courses offered by one department or by two closely related departments upon the advice of the dean and the heads of the departments concerned. The work composing each minor must be selected from a single department. The major and minors will normally be selected from different departments, but the double minor will be in one department. Other work will be elected upon advice of the dean to meet the total requirement of 108 quarter hours during the junior and senior years.

The head of the department in which the student majors — or someone designated by him — automatically becomes the student's adviser and is charged with the responsibility of outlining the student's major work. The minors are to be selected in consultation with the head of the department in which the student majors, but the heads of the departments in which the student minors will prescribe the work to be completed in those fields. The outline of the work constituting the major and minors must be transmitted to the dean of the school before the student registers for his junior year of work.

A Service Division

One of the very important functions of the School of Science and Literature is to serve the professional schools on the campus. Whatever curriculum a student may elect, whether it be Engineering, Agriculture, Education, Home Economics, or any other, he must take certain fundamental courses in English, mathematics, history, economics, and sometimes physics, foreign languages, public speaking, journalism, etc. All of these courses at Auburn are offered only in the School of Science and Literature, thereby eliminating unnecessary duplication and saving cost. The student who is preparing to become a professional teacher spends a large portion of his time in this school acquiring a fundamental education in the subject matter which he expects ultimately to teach and in broadening his education in general subjects. He takes his professional work in teacher-training in the School of Education. A student entering Auburn University who has not yet decided what particular vocation he desires to pursue will naturally register in the School of Science and Literature and may, if he so elects, transfer later to a technical school in the institution. Courses in other divisions of the institution are open to election by students registered in the School of Science and Literature.

Foreign Language. — In all curricula in this school that require three quarters in a foreign language the work must be in one language.

Co-operative Program in Business Administration

The Co-operative Program in Business Administration is a program of education which offers students in Business Administration an opportunity to integrate their theoretical training with practical experience. Students alternate each quarter between school and a work assignment provided through the Co-operative Coordinator by business, industrial, and banking organizations. For further information, see page 86.

Curriculum in Science and Literature (SL) and Pre-Law (PL)

Students desiring to pursue a curriculum leading to the degree Bachelor of Arts with majors in English, English-Journalism, Foreign Language, History, Speech and Sociology; or a curriculum leading to the degree Bachelor of Science with minors in Biological Sciences, Chemistry, Economics, Mathematics, Physics, and those preparing for Law School should select the curriculum. Prospective majors should consult departmental requirements beginning on page 178. It is designed to meet the minimum requirements for admission to standard law schools by the end of the sophomore year.

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 102	Prin. of Geography .5	EH 101	English Comp. ....5	EH 102	English Comp. ....5
HY 107	American History ....5	MH 112	Intr. College Math. 5	FL	Foreign Language* 5
MH 111	Intr. College Math. 5		Science (ZY 101 or		Science (ZY 102 or
MS	Military Training ....1		CH 103, 103L)†		CH 104, 104L)†
PE	Physical Education ....1		and ††5		and ††5
LY 101	Use of Library .....1	MS	Military Training ....1	MS	Military Training ....1
		PE	Physical Education .1	PE	Physical Education .1

SOPHOMORE YEAR

FL	Foreign Language .5	EH 253	Lit. in English .....5	†EC 200	Gen. Economics ....5
HY 209	American Gov't .....5	FL	Foreign Language .5	EH 254	Lit. in English .....5
SY 201	Intro. Sociology** .5	HY 210	American Gov't .....5	PG 211	Psychology** .....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ....1	PE	Physical Education .1	PE	Physical Education .1

Women students will take Hygiene in the Freshman year and Current Events in the Sophomore year in lieu of Military Training.

For Science and Literature Students

During the junior and senior years the student is to complete Philosophy 301 (3), Logic 308 (3), seven additional five-hours courses in his major, three additional five-hour courses in each of two minors, five five-hour electives and four three-hour general electives. 211 quarter credit hours are normally required for graduation. All major and minor courses are to be numbered 200 or above. See available majors and minors below.

Language and Literature Major

JUNIOR AND SENIOR YEARS

The majors available in the Language-Literature Groups are as follows: English***, Journalism and English***, Foreign Language, Speech†††.

Students who choose one of the above majors will select two minors from the following: Art, Botany, Chemistry, Dramatics, Economics, Education, English, Foreign Languages, History, Home Economics, Journalism, Mathematics, Music, Physical Education, Physics, Psychology, related subjects in Agriculture or Engineering, Secretarial Training, Sociology, Speech, Zoology.

Science Major†

JUNIOR AND SENIOR YEARS

The majors available in the Science Group are as follows: Biological Sciences, Chemistry, Mathematics††††, Physics.

Students who choose a Science Major will select two minors from the following: Art, Botany, Chemistry, Dramatics, Economics, Education, English, Foreign Languages, History, Home Economics, Journalism, Mathematics, Music, Physical Education, Physics, Psychology, related subjects in Agriculture or Engineering, Secretarial Training, Sociology, Speech, Zoology.

† Majors in Mathematics or Physical Sciences will take MH 101, CH 103-103L, and CH 104-104L.

†† Must include Laboratory.

‡ Economics majors take EC 201.

* Students who have credit for two high school units in a foreign language must begin third quarter's work in that language or take another language.

** Science majors will take two quarters of Science here but Sociology and Psychology are to be taken during the Junior or Senior Year.

*** For special requirements for English and English-Journalism majors, see pages 251 and 271.

††† For special requirements for Speech majors, see pages 303-305.

†††† For special requirements for Mathematics majors, see page 272.

Social Science Major

JUNIOR AND SENIOR YEARS

The majors available in the Social Science Group are as follows: Economics****, History*****, Sociology****.

Students who choose one of the above majors will select two minors from the following: Art, Botany, Chemistry, Dramatics, Economics, Education, English, Foreign Languages, History, Home Economics, Journalism, Mathematics, Music, Physical Education, Physics, Psychology, Secretarial Training, Sociology, Speech, Zoology, related subjects in Agriculture or Engineering.

For Pre-Law Students

By the end of the junior year the student preparing for a career in law and desiring to qualify for the combination B.S. degree (awarded at the end of the first year in Law School after completion of three years in this curriculum at Auburn), must have satisfactorily completed Philosophy 301 (3), Logic 308 (3), and the following five quarter-hour courses: Public Speaking 231, Argumentation and Debate 283, Accounting 211, Accounting 212 and History of England 472. In addition selection from the following five-hour courses is strongly recommended for completion of the Junior year: Typewriting 111°, Advanced Composition 390, Statistics 345, Corporation Finance 463, Public Finance 465, Political Science 407, Social Problems 202 and Cultural Anthropology 203. Those students wishing to obtain the bachelor's degree at Auburn before entering Law School should continue this curriculum and complete the usual major, minors and electives described above for Science and Literature students.

Business Administration (BA)

This program is designed to train for careers in the business world and government. During the first two years, emphasis is given to a liberal arts program of work which is so essential to all college graduates. The four-year curriculum gives the student a systematic introduction to and understanding of the major areas of Accounting, Marketing, Finance and Banking, Statistics, Personnel Management, Industrial Relations and Economics. Furthermore, during the junior and senior years, opportunity is given the student to major or concentrate in a particular area of business, thereby qualifying him for more specialized work in business or government. Business management at top, middle and lower levels, increasingly demands the services of the Business Administration and Commerce trained graduate.

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EC 101	Intro. to Business and Industry† .....5	EH 101	English Comp. ....5	EH 102	English Comp. ....5
EC 103	Intro. Econ. Geog. ....5	FL 121, 131 or 151, or Science (ZY 101 or CH 103) and ††5		FL 122, 132 or 152, or Science (ZY 102 or CH 104) and ††5	
HY 107	American History ....5	MH 107	College Algebra .....5	MH 108	Math. of Finance ....5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education ....1	PE	Physical Education ....1	PE	Physical Education ....1
LY 101	Use of Library .....1				

**** For special requirements for Sociology majors, see pages 301-303.

***** Economic Problems, EC 202, Statistics, EC 345, and Money and Banking, EC 360, are required for Economics majors.

***** For special requirements for History majors, see page 259.

† Not open to juniors or seniors or to students with credit in EC 200 or 201.

†† Must include Laboratory.

SOPHOMORE YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH 253	Lit. in English .....5	EC 211	Intro. Accounting .....5	EC 202	Econ. Problems .....5
SP 231	Public Speaking .....5	EC 201	Prin. of Economics .....5	EC 212	Intro. Accounting .....5
ST 111	Typewriting* .....5	HY 206	American Gov't .....5	PG 211	Gen. Psychology or
MS	Military Training .....1	MS	Military Training .....1	SY 201	Intro. to Sociology .....5
PE	Physical Education .....1	PE	Physical Education .....1	MS	Military Training .....1
				PE	Physical Education .....1

JUNIOR YEAR

EC 331	Marketing Prin. ....5	EC 341	Business Law .....5	EC 350	Labor Problems .....5
EC 360	Money & Banking .....5		Group Elective .....5	EH 345	Bus. & Prof. Wrtg. ....5
EC 345	Statistics .....5		Elective** .....5		Elective** .....5
†PA 301	Intro. to Philosophy 3	†PA 308	Intro. to Logic .....3		Elective .....3

SENIOR YEAR

EC 465	Public Finance .....5		Group Elective .....5	EC 463	Corp. Finance .....5
	Group Elective .....5		Group Elective .....5		Group Elective .....5
	Elective** .....5		Elective** .....5		Elective** .....5
	Elective .....3		Elective .....3		Elective .....3

Total—211 quarter hours

Women students will take Hygiene in the Freshman year and Current Events in the Sophomore year in lieu of Military Training.

* Not open to students having one H.S. unit in typing. In such cases an Economic Group Elective may be substituted.

† Not required of students in Advanced R.O.T.C. Program.

** Electives chosen in consultation with advisor.

GROUP ELECTIVES

EC 357	Economic History of Europe	EC 436	Marketing and Business Research
EC 358	Economic History of the United States	EC 437	Sales Management
EC 304	Geography of South America	EC 438	Retail Merchandising
EC 305	Geography of North America	EC 442	Personnel Management
EC 306	Geography of Europe	EC 444	Labor Legislation
EC 307	Geography of Asia	EC 445	Industrial Relations
EC 308	Geography of Africa	EC 446	Business Cycles
EC 311-12	Intermediate Accounting	EC 449	Adv. Personnel Administration
EC 314	Income Tax Accounting	EC 450	Job Evaluation and Incentive Systems
EC 321	Property Insurance	EC 451	Intermediate Economic Theory
EC 322	Life Insurance	EC 452	Comparative Economic Systems
EC 323	Real Estate	EC 460	Economic Development of the South
EC 332	Credits and Collections	EC 462	Monetary Theory and Policy
EC 333	Salesmanship	EC 464	Investments
EC 342	Business Law	EC 471	Foreign Trade
EC 402	American Industries	EC 472	Economics of Transportation
EC 404	Office Management	EC 473	Traffic Management
EC 405	Cultural Geography of the World	EC 474	Advanced Statistics
EC 407	World Resources	EC 476	Motor Transportation
EC 411-12	Cost Accounting	EC 480	Business Policies and Administration
EC 414	Adv. Income Tax Accounting	IM 306	Industrial Management
EC 416	Auditing	IM 310	Methods Engineering
EC 417-18	Advanced Accounting	PG 461	Industrial Psychology
EC 419	Governmental Accounting	ST 302	Office Machines
EC 432	Advertising	SY 201	Introductory Sociology
EC 433	Retail Store Management	SY 401	Population
EC 434	Purchasing	SY 408	Industrial Sociology
EC 435	Advanced Marketing		

Secretarial Training (ST)

The course in Secretarial Training is designed to meet the needs of those who plan to fit themselves for secretarial positions in business, government and professional offices. The program of work outlined leads to the B.S. degree.

In order to determine placement in the proper course personal conferences with those students who have had shorthand and typewriting elsewhere will be held during registration.

FRESHMAN YEAR

FIRST QUARTER

EC 102	Prin. of Geog. or	
EC 103	Intro. Econ. Geog. ..5	
EH 101	English Comp. ....5	
ST 101	Secretarial Science* 5	
PW 111	Hygiene .....1	
PW	Physical Education ..1	
LY 101	Use of Library .....1	

SECOND QUARTER

EH 102	English Comp. ....5	
MH 107	College Algebra ....5	
ST 102	Secretarial Science ..5	
PW 112	Hygiene .....1	
PW	Physical Education ..1	

THIRD QUARTER

EC 101	Intro. to Business and Industry† ..5	
HY 107	American History ....5	
MH 108	Math. of Finance ....5	
PW 113	Hygiene .....1	
PW	Physical Education ..1	

* Open to ST majors and others who have had ST 111 or equivalent typing credit.

† Not open to juniors or seniors or to students with credit in EC 200 or 201.

SOPHOMORE YEAR

ST 203	Secretarial Science ..5	
EC 200	Gen. Economics or	
EC 201	Prins. of Economics 5	
SP 231	Public Speaking .....5	
HY 205	Current Events .....1	
PW	Physical Education ..1	

EC 211	Intro. Accounting ....5	
PG 211	Psychology .....5	
ST 204	Secretarial Science ..5	
HY 205	Current Events .....1	
PW	Physical Education ..1	

EC 212	Intro. Accounting ....5	
HY 206	American Gov't ....5	
ST 302	Office Machines and Filing .....5	
HY 205	Current Events .....1	
PW	Physical Education ..1	

JUNIOR YEAR

EC 341	Business Law .....5	
EC 345	Statistics .....5	
ST 300	Sec. Procedure .....5	
PA 301	Intro. to Philosophy 3	

SY 201	Intro. Sociology ....5	
ST 301	Dictation .....5	
ST 303	Adv. Office Mach. ..5	
PA 308	Intro. to Logic .....3	

EC 331	Marketing .....5	
EH 345	Bus. & Prof. Writing .....5	
	Elective .....5	
PA 302	Intro. to Ethics .....3	

SENIOR YEAR

EC 404	Office Management ..5	
	Elective .....5	
	Elective .....5	
	Elective .....3	

EC 442	Personnel Mgt. ....5	
ST 401	Dictation .....5	
	Elective .....5	
	Elective .....3	

ST 402	Office Appren- ticeship .....5	
	Group Elective* ..5	
	Group Elective* ..5	
	Elective .....3	

Total—211 quarter hours

* Refer to page 180 for Group Electives.

Mathematics (MH)

This curriculum is designed to prepare students for graduate study and eventual careers as Mathematicians.

FRESHMAN YEAR

FIRST QUARTER

EH 101	English Comp. ....5	
FL 121	French .....5	
MH 111	Intr. College Math. 5	
LY 101	Use of Library .....1	
PE	Physical Education ..1	
MS	Military Training ....1	

SECOND QUARTER

EH 102	English Comp. ....5	
FL 122	Elem. French .....5	
MH 112	Intr. College Math. 5	
PE	Physical Education ..1	
MS	Military Training ....1	

THIRD QUARTER

EH 108	Classical Lit. ....5	
FL 221	Inter. French .....5	
MH 161	Anal. Geom. & Cal. 5	
PE	Physical Education ..1	
MS	Military Training ....1	

SOPHOMORE YEAR

EH 253	Lit. in English .....5	
MH 262	Anal. Geom. & Cal. 5	
PS 201	Mechanics .....5	
PE	Physical Education ..1	
MS	Military Training ....1	

EH 254	Lit. in English .....5	
MH 263	Anal. Geom. & Cal. 5	
PS 202	Heat, Light, Sound .....5	
PE	Physical Education ..1	
MS	Military Training ....1	

HY 207	World History .....5	
MH 264	Anal. Geom. & Cal. 5	
PS 203	Elec. & Magnetism ..5	
PE	Physical Education ..1	
MS	Military Training ....1	

JUNIOR YEAR

FL 151	Elem. German .....5	
HY 208	World History .....5	
MH 361	Diff. Equations I ....5	
PA 301	Intro. to Phil.* .....3	

FL 251	Inter. German .....5	
MH 420	Adv. Calculus .....5	
PA 307	Sci. Reasoning .....5	
	Elective .....3	

FL 251	Inter. German .....5	
MH 421	Adv. Calculus .....5	
MH 443	Topics in Geom. ....5	
	Elective .....3	

SENIOR YEAR

MH 331	Higher Algebra .....5	
	Elective 2 Sequence 5	
	Elective 3 .....5	
	Elective .....3	

MH 431	Intro. Modn. Alg. ..5	
	Elective 2 Sequence 5	
	Elective 3 .....5	
	Elective .....3	

MH	Elective 1 .....5	
	Elective 2 Sequence 5	
	Elective 3 .....5	
	Elective .....3	

Total—211 quarter hours

* Not required of students in advanced ROTC programs.

1. MH Elective—to be taken from MH 435, 437 or 444.

2. These electives are to include any one of the following sequences: (a) PS 305 Introduction to Modern Physics, PS 401 Theoretical Physics I (mech.), PS 402 Theoretical Physics II (mech.), (b) ZY 101, ZY 102 General Zoology, ZY 400 Genetics or BY 401 Princ. of Biometry, (c) BY 201, BY 202 General Botany, ZY 400 Genetics or BY 401 Princ. of Biometry, (d) CH 103, 103L, 104, 104L General Chemistry, CH 205 Qualitative Analysis or CH 207 Organic Chemistry.

3. The student must consult with the Department of Mathematics on the selection of these electives. They are used to meet the needs and interests of the individual students in line with fulfilling the objectives of this curriculum. They may be taken in the biological, physical or social sciences, literature, languages, history, education or mathematics.

Physics (PS)

This curriculum is designed to prepare students for graduate study and eventual careers in research and teaching in Physics. Equipment is available for advanced laboratory work and research in several outstanding fields.

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
CH 111	Chemistry .....5	CH 112	Chemistry .....5	CH 113	Chemistry .....5
HY 107	American History .....5	EH 101	English Comp. ....5	EH 102	English Comp. ....5
MH 111	Intr. College Math. 5	MH 112	Intr. College Math. 5	MH 161	Anal. Geom. & Cal. 5
MS	Military Training ...1	MS	Military Training ...1	MS	Military Training ...1
PE	Physical Education ..1	PE	Physical Education ..1	PE	Physical Education ..1
LY 101	Use of Library .....1				

SOPHOMORE YEAR

EH 253	Lit. in English .....5	CH 205	Qual. Analysis .....5	CH 206	Quant. Analysis .....5
MH 262	Anal. Geom. & Cal. 5	MH 263	Anal. Geom. & Cal. 5	MH 264	Anal. Geom. & Cal. 5
PS 201	Mechanics .....5	PS 202	Heat, Sound and	PS 203	Elec. and Mag. ....5
MS	Military Training ...1		Light .....5	MS	Military Training ...1
PE	Physical Education ..1	MS	Military Training ...1	PE	Physical Education ..1
		PE	Physical Education ..1		

JUNIOR YEAR

CH 313	Physical Chem. ....5	CH 314	Physical Chem. ....5	FL 121	Elem. French .....5
MH 361	Diff. Equa. I .....5	MH 402	Engin. Math. I .....5	PS 305	Modern Physics .....5
PS 301	Intermediate Elec.	PS 302	Electronics .....5		Elective .....5
	& Magnetism .....5		Elective .....3		Elective .....3
	Elective .....3				

SENIOR YEAR

FL 122	Elem. French .....5	FL 151	Elem. German .....5	FL 152	Elem. German .....5
PS 401	Theoretical Phys. I ..5	PS 303	Optics .....5	PS 404	Thermodynamics .....5
PS 405	Nuclear Physics .....5	PS 402	Theoret. Phys. II .....5		Group Elective .....5
	Elective .....3		Elective .....3		Elective .....3

Total—211 quarter hours

Women students will take Hygiene in the Freshman year and Current Events in the Sophomore year in lieu of Military Training.

GROUP ELECTIVES

MH 404	Engineering Mathematics III	PS 410	Introduction to Reactor Physics II
PS 304	Applied Spectroscopy	PS 421	Advanced Electronic Circuits
PS 409	Introduction to Reactor Physics I		

Curriculum in Pre-Professional Science

For Students in Premedicine (PM), Predentistry (PD) and Preveterinary Medicine (PV)

The first two years of this curriculum meet the minimum course requirements for admission to the Auburn School of Veterinary Medicine. Refer to page 184 for particulars. Standard schools of dentistry and medicine require at least two and three years, respectively. Each student is urged to continue an additional one or two years beyond the bare minimum demands of the professional school of his choice, however. The Bachelor of Science degree is awarded to those completing the four-year curriculum before entering pro-

professional school. Students admitted to dental, medical or veterinary medical school before graduation, but after having completed the first three years of this curriculum at Auburn and including Qualitative Analysis, CH 205, may transfer credits for the first year in professional school back to Auburn and receive the B. S. degree.

FRESHMAN YEAR

FIRST QUARTER		SECOND QUARTER		THIRD QUARTER	
EH 101	English Comp. ....5	CH 103	Chemistry .....4	CH 104	Chemistry .....4
MH 111	Intr. College Math. 5	CH 103L	Gen. Chem. Lab. .1	CH 104L	Gen. Chem. Lab. .1
ZY 101	Zoology .....5	EH 102	English Comp. ....5	HY 107	American History .5
MS	Military Training ....1	ZY 102	Zoology .....5	MH 112	Intr. College Math. 5
PE	Physical Education .1	MS	Military Training ....1	MS	Military Training ....1
LY 101	Use of Library .....1	PE	Physical Education .1	PE	Physical Education .1

SOPHOMORE YEAR

BY 201	Botany .....5	CH 207	Organic Chemistry .5	CH 208	Organic Chemistry .5
CH 205	Qual. Analysis	HY 206	American Gov't.	EH 141	Medical Vocab. ....5
	or		or	PS 210	Physics
AH 200	Intr. An. Husb.* .5	PH 202	Veterinary Poul.* .5		or
PS 205	Physics .....5	PS 206	Physics .....5	AH 204	Animal Nutrition* .5
MS	Military Training ....1	MS	Military Training ....1	MS	Military Training ....1
PE	Physical Education .1	PE	Physical Education .1	PE	Physical Education .1

JUNIOR YEAR

EH 345	Bus. and Prof.	CH 206	Quant. Analysis .....5	CH 316	Physical Chemistry .5
	Writing .....5	FL 152	German*** .....5	FL 251	German*** .....5
FL 151	German*** .....5	SY 201	Sociology .....5	ZY 302	Vertebrate Embry. .5
ZY 301	Comp. Anatomy .....5	‡PA 308	Intro. to Logic .....3		Elective .....3
‡PA 301	Intro. to Philosophy 3	HY 305	Current Events** ....1	HY 305	Current Events** ....1
HY 305	Current Events** ....1				

SENIOR YEAR

EC 200	Gen. Economics ....5	PG 211	Psychology .....5	SP 231	Public Speaking .....5
	Group Elective .....5		Group Elective .....5		Group Elective .....5
	Group Elective .....5		Group Elective .....5		Group Elective .....5
	Elective .....3		Elective .....3		Elective .....3

Total—211 quarter hours

* To be taken by Pre-Veterinary students but not by PMs or PDs.

** NOTE: Not required for graduation but urged in preparation for Medical and Dental Aptitude tests. Three quarters of Current Events recommended throughout Junior year and may be used in place of a three hour elective.

*** Students who have credit for two high school units in German must begin the third quarter's work in that language or take another language.

‡ Not required of students in Advanced R.O.T.C. Program.

Women students will take Hygiene in the Freshman year and Current Events in the Sophomore year in lieu of Military Training.

GROUP ELECTIVES

AT 101	Freehand Drawing	SY 304	Minority Groups
CH 301	Biochemistry	SY 301	Sociology of the Family
CH 305	Organic Chemistry	VM 200	General Microbiology
EC 341-2	Business Law	VM 220-1	Human Anatomy and Physiology
EH 253	Literature in English	ZY 400	Genetics
EH 357-8	American Literature	ZY 404	Medical Entomology
FL 252	Advanced German	ZY 308	Micrology
HY 207-8	World History	ZY 409	Histology
MH	Advanced Mathematics	PG 435	Abnormal Psychology

School of Veterinary Medicine

J. E. GREENE, *Dean*

THE SCHOOL OF VETERINARY MEDICINE offers a fully accredited program of training leading to the degree of Doctor of Veterinary Medicine. Completion of the curriculum requires four years in the professional school after completion of the pre-professional curriculum which requires a minimum of two years.

An expanding program of research contributes to the advancement of knowledge in the prevention and control of animal diseases.

Annual Conference for Veterinarians. — A conference for graduate veterinarians is held each year on the campus. Speakers on these programs are men of wide experience and prominence in the various fields of veterinary activity.

Student A.V.M.A. — A student chapter of the American Veterinary Medical Association is maintained by the veterinary students. All students of the School of Veterinary Medicine are eligible for membership in this chapter.

Admission

Two years of general college work, with a minimum scholastic average of 1.25 on all required courses, is required for admission. A grade of D on any required course will not be accepted. The Committee on Admissions of the School of Veterinary Medicine may require a personal interview with any applicant and may also require a reading comprehension test, or an examination on any required course. The School of Science and Literature offers a two-year Pre-Veterinary Medicine Curriculum which is available to residents of Alabama and is shown on page 183. Applications for admission to the pre-veterinary course should be made directly to the Registrar, Auburn University.

Residents of states other than Alabama should complete the pre-professional requirements at institutions within their home state, since they are not eligible for admission to the pre-professional curriculum at Auburn University. Such work should include 10 quarter hours of inorganic chemistry; 10 quarter hours of organic chemistry; 10 quarter hours of physics; 5 quarter hours of botany; 10 quarter hours of zoology; 10 quarter hours of English Composition; 10 quarter hours of introductory college mathematics; 5 quarter hours of poultry husbandry; 5 quarter hours of animal nutrition; 5 quarter hours of introductory animal husbandry; 5 quarter hours of American history, and 5 quarter hours of medical vocabulary. Ten quarter hours of Latin or modern language may be substituted for medical vocabulary, or this course may be taken by correspondence through the Correspondence Study Department, Auburn University. Three semester-hour courses will be accepted as the equivalent in subject-matter content of five quarter hour courses.

Admission to the School of Veterinary Medicine must be gained through making formal application not less than four months in advance of entrance date. Applications will be considered only from students who submit evidence of satisfactory completion of all the above requirements. Students will be admitted at the beginning of the fall quarter only.

In admitting students to the School of Veterinary Medicine, the Committee on Selections and Admissions gives due consideration to scholastic record, general adaptability to the profession, and residence.

Admission under the Regional Plan. — Under the Regional Plan for Veterinary Training, the School of Veterinary Medicine serves five states — Alabama, Florida, Mississippi, Kentucky and Tennessee. While there is no limit on the number of applications, the School's facilities make it necessary to restrict admissions to 75 new students each year — 35 from Alabama and a fixed share of the other 40 from each of the other four participating states.

The Land-Grant Institution in each state participating under the Southern Regional Education plan maintains a counseling and guidance service for students desiring admission to the School of Veterinary Medicine. Students attending other than Land-Grant Institutions of the several states should contact the counseling and guidance service for information and advice concerning courses which will be acceptable in the pre-veterinary curriculum. Inquiries should be made early and addressed to:

Alabama:	Dean, School of Science & Literature Auburn University Auburn, Alabama
Florida	Dean, School of Agriculture University of Florida Gainesville, Florida
Mississippi:	Dean, School of Agriculture Mississippi State University State College, Mississippi
Kentucky:	Head, Department of Animal Pathology University of Kentucky Lexington, Kentucky
Tennessee:	Dean, School of Agriculture University of Tennessee Knoxville, Tennessee

The procedure to be followed in making application for admission to the School of Veterinary Medicine under the Regional Plan varies in the several states. An officer, or board, in each state certifies applicants as to residence. A committee at the Land-Grant Institution of the respective state evaluates courses taken at colleges other than the Land-Grant Institution in that state for the completion of the pre-veterinary requirements. Residents who wish to be included in their state's list of eligibles for entrance into the School of Veterinary Medicine should send their completed applications together with three letters of recommendation and a transcript covering all college work completed to the appropriate address as indicated below:

Alabama:	Dean, School of Veterinary Medicine Alabama Polytechnic Institute Auburn, Alabama
----------	---

Florida:	Secretary Board of Control for Fla. Institutions of Higher Learning Tallahassee, Florida
Kentucky:	Chairman, Committee on Regional Veterinary Training University of Kentucky Lexington, Kentucky
Mississippi:	Executive Secretary Board of Trustees for Institutions of Higher Learning State Capitol Jackson, Mississippi
Tennessee:	Committee on Regional Veterinary Training University of Tennessee Knoxville, Tennessee

The final selection of the students to be admitted is made by the Committee on Admissions of the School of Veterinary Medicine, Auburn University. These selections are made from the applications which have been certified by the Committees in the respective states.

Microscopes. — In order to be admitted to the School of Veterinary Medicine, students must own a compound microscope acceptable to the faculty. Microscopes may be purchased through the Supply Store of Auburn University for cash in full amount less any available discounts.

Scholastic Requirements

Students enrolled in the School of Veterinary Medicine who make a scholastic average less than 1.25 for any two quarters of one academic year may be dropped from the School of Veterinary Medicine for scholastic deficiency. A student who makes a grade of "F" on any course may be required to withdraw from the School of Veterinary Medicine until such time as the course is offered again. Such student may be required to repeat certain other courses in the curriculum for that quarter.

Students who are dropped under the above provisions are eligible for admission to other curricula provided they meet the general scholastic requirements for continuance in college. The scholastic penalties incurred while enrolled in the School of Veterinary Medicine will become a part of the student's record.

Veterinary Curriculum

Given below are the subjects together with the credit hours required for each of the four years in the School of Veterinary Medicine.

Fourth-year veterinary students will be required to continue in school during the summer, fall and winter quarters. Following completion of the three quarters of senior academic work, each student will be required to serve an internship of one quarter with a reputable practicing veterinarian. A certificate of satisfactory completion of this internship will be required for graduation.

Curriculum in Veterinary Medicine (VM)

FIRST YEAR		SECOND QUARTER		THIRD QUARTER	
FIRST QUARTER					
VM 320 Anatomy	5	VM 321 Anatomy	5	VM 322 Anatomy	5
VM 326 Histology	5	VM 327 Organology	5	VM 328 Embryology	5
VM 330 Gen. Microbiology ..	5	VM 331 Inf. & Immunity	5	VM 336 Physiology	5
VM 333 Zootechnics	3	VM 329 Physiology	3	VM 334 Zootechnics	2
SECOND YEAR					
VM 436 Pharmacology	5	VM 437 Pharmacology	3	VM 438 Pharmacology	5
VM 443 Physiology	5	VM 444 Physiology	5	VM 452 Clinical Pathology ..	3
VM 450 General Pathology ..	5	VM 451 Systemic and		VM 458 Parasitology	3
VM 456 Parasitology	3	Special Pathology	5	VM 459 Systemic and	
		VM 457 Parasitology	5	Spec. Pathology	2
THIRD YEAR					
VM 500 Vet. Medicine	5	VM 501 Vet. Medicine	5	VM 502 Vet. Medicine	5
VM 510 Small Animal Med. ..	5	VM 503 General Surgery	3	VM 504 Large Animal	
PH 422 Avian Diseases	5	VM 521 Milk Sanitation	5	Surgery	5
VM 526 Physical Diag. &		VM 527 Physical Diag. &		VM 512 Small Animal	
Clinical Technique ..	2	Clinical Technique ..	2	Surgery	5
VM 528 Applied Anatomy	2	VM 530 Radiation Biology		VM 519 Sm. An. Medicine	3
		& Diag. Radiology ..	5	VM 508 Large Animal Clinic ..	1
		VM 531 Jurisp. & Ethics	1	VM 518 Small Animal Clinic ..	1
FOURTH YEAR					
VM 551 Jurisp. & Ethics	1	VM 552 Jurisp. & Ethics	1	VM 556 Infectious Diseases ..	5
VM 554 Vet. Medicine	3	VM 555 Infectious Diseases ..	5	VM 558 Applied Anatomy	1
VM 557 Applied Anatomy	1	VM 561 Vet. Medicine	5	VM 582 Seminar	3
VM 560 Obstetrics	5	VM 563 Large Animal Sur-		VM 588 Veterinary Medicine ..	5
VM 575 Meat Sanitation	5	gery & Ob. Ex.	1	VM 564 Large Animal Sur-	
VM 562 Large Animal Sur-		VM 573 Sm. An. Surg. Ex.	1	gery & Ob. Ex.	1
gery & Ob. Ex.	1	VM 567 Large Animal Clinic ..	2	VM 574 Sm. An. Surg. Ex.	1
VM 572 Sm. An. Surg. Ex. ..	1	VM 577 Small Animal Clinic ..	2	VM 568 Large Animal Clinic ..	2
VM 566 Large Animal Clinic ..	2			VM 578 Small Animal Clinic ..	2
VM 576 Small Animal Clinic ..	2				

Total—225 quarter hours

(See page 183 for Pre-Veterinary Medicine requirements.)

The Graduate School

W. V. PARKER, *Dean*

ALL REGULATIONS governing the Graduate School are designed to equal or exceed the minimum standards recommended by the Conference of Deans of Southern Graduate Schools and the Commission on Colleges and Universities of the Southern Association of Colleges and Secondary Schools.

Any student with a bachelor's degree from an accredited college or university may apply to the Dean of the Graduate School for admission. Application for admission, the form for which may be secured from the Graduate School, must be accompanied by a transcript of undergraduate credits. It must be received at least three weeks before registration. Every applicant must have a satisfactory undergraduate record and show adequate preparation in the field in which he desires to major as determined by the screening committee of the school or department concerned.

A special Bulletin of the Graduate School contains detailed information on the regulations of the Graduate School, the courses offered for graduate credit, the requirements for degrees, fellowships and assistantships, and other matters pertaining to graduate work in this institution. Seniors wishing to register for graduate courses should consult this Bulletin for regulations concerning such registration. A Bulletin may be obtained upon request from the Dean of the Graduate School.

The Graduate School administers graduate work leading to the degrees listed below.

The Master's Degree Program

Master of Science in the areas of Agricultural Economics, Agricultural Education, Agricultural Engineering, Agronomy, Animal Husbandry, Animal Nutrition, Botany, Business Administration, Chemical Engineering, Chemistry, Civil Engineering, Dairy Manufacturing, Dairy Production, Education, Electrical Engineering, Entomology, Fisheries Management, Forestry, Game Management, Home Economics, Horticulture, Mathematics, Mechanical Engineering, Nuclear Science, Ornamental Horticulture, Pharmacy, Physics, Poultry Husbandry, Psychology, Veterinary Medicine, and Zoology.

Master of Arts in the areas of English and History.

Other Master's Degrees: Master of Agriculture, Master of Agricultural Education, Master of Applied Art, Master of Building Construction, Master of Education, Master of Home Economics.

The Doctoral Degree Program

Doctor of Education in the areas of School Administration, Supervision and Guidance; and Curriculum and Teaching.

Doctor of Philosophy in the Department of Agronomy and Soils, the Department of Animal Husbandry and Nutrition, the Department of Botany and Plant Pathology, the Department of Chemistry, the Department of Mathematics, the Department of Poultry Husbandry, the Department of Zoology-Entomology, and an interdisciplinary program for Agricultural Engineers.

Research Program at the Oak Ridge Institute of Nuclear Studies

Auburn University is one of the sponsoring institutions of the Oak Ridge Institute of Nuclear Studies located at Oak Ridge, Tennessee. Through this cooperative association with the Oak Ridge Institute our Graduate Research Programs have at their disposal the facilities of the National Laboratories in Oak Ridge and the research staffs of these laboratories. When advanced degree candidates in certain areas have completed their resident work at Auburn it is possible, by special arrangement, for them to go to Oak Ridge to do their research problems and prepare their theses. In addition, it is possible for our faculty members to obtain appointments on the Oak Ridge Research Participation Program for varying periods, usually not less than three months, in order to pursue advanced studies in their fields of specialization. Thus, both faculty and students may keep abreast of the most modern and up-to-date developments in atomic and nuclear research that is in progress at the Oak Ridge Laboratories.

The students will go to Oak Ridge on Oak Ridge Graduate Fellowships. The stipend will be determined by the number of dependents of the student and by the level of work which he is prepared to do. Faculty members may work in Oak Ridge on stipends commensurate with their current college salary and rank.

Information on the opportunities for research in the Oak Ridge Laboratories is available in the office of the Dean of the Graduate School.

Grant-in-Aid Research Program

The Grant-in-Aid Program has for its purpose the stimulation of campus-wide interest and activity in basic research among our faculty and, indirectly, the upgrading and vitalizing of teaching on advanced levels of instruction. Funds made available by the University Administration are granted to faculty members in support of worthy research projects which as a rule have already been initiated and require only modest sums for their completion. Applications for grants are critically examined by a representative Research Committee. The Committee makes recommendations to the Dean of the Graduate School who presents the applications to the President for final approval.

The Auburn Research Foundation

W. C. JONSON, JR., *Director*

THE AUBURN RESEARCH FOUNDATION is composed of alumni, prominent scientists, scholars, and members of the teaching and research staffs of Auburn University. It was incorporated in November 1944, as a non-profit corporation designed to serve as the fiscal agency solely in aid of research. It was formed to promote the general welfare of the State of Alabama and the citizens thereof, through the development of educational and scientific research; to encourage and foster through education a desire for research; to discover and develop research talent by means of graduate studies and research work; to provide means whereby discoveries and inventions may be developed, patented, protected, used, and licensed, so as to be of maximum use to the State and the Southern region; to cooperate with all education, research, agricultural, and industrial organizations for the betterment of the South and especially the State of Alabama and its citizens; to foster and encourage education and learning in natural science, social science, the humanities, agriculture, and engineering and to promote the liberal and practical education of the citizens of Alabama in the several pursuits of life.

The Auburn Research Foundation functions as an agency of Auburn University. Its officers and directors are as follows: President, Dr. Ralph B. Draughon; Vice President, Dr. David W. Mullins; Treasurer, Mr. W. T. Ingram; Secretary-Director, W. C. Jonson, Jr.

Board of Directors: Dr. Earl I. Brown, II, Assistant Dean, School of Engineering; Dr. C. A. Basore, Head, Department of Chemical Engineering; Dr. Coyt T. Wilson, Assistant Dean of Agriculture and Associate Director of the Agricultural Experiment Station; Dr. Charles P. Anson, Head, Economics, Business Administration and Sociology; Mr. Geo. Mattison, Birmingham, Ala.; and Mr. Pleas Looney, Folmar and Flynn, Montgomery, Ala.

In the furtherance of its objectives and purposes, the Auburn Research Foundation has full power and right to accept by gift, devise, or bequest, or to acquire by purchase, to assign, to exchange, or to dispose by any other lawful manner, money, patents, processes, and property of all kinds, from any person, firm or corporation, or other organization as necessary for proper functioning.

In the pursuit of the objectives of the Foundation a number of types of research projects and fellowships have been developed:

1. The sponsoring of research projects by funds of the Auburn Research Foundation.

2. Contractual research for specific investigations and development work to be performed at Auburn University under the administration of the Auburn Research Foundation.

3. Industrial fellowships established for one to three years with the definite understanding that the recipient of the fellowship will work toward his master's or doctor's degree as the case may be.

4. Joint cooperative research projects in which a definite research investigation or development is worked on at the request of a sponsor who finances

the project and who has representation on a joint advisory board for directing the project.

5. Direct grants to the Auburn Research Foundation which are intended to stimulate research and development in an area or discipline specified by the donor but which are not controlled by the donor. Monies received in such grants usually come from foundations established by industries or the government.

The research projects serve a number of industrial concerns, governmental agencies, boards and foundations. They offer an opportunity for faculty and staff members to develop their research talents. They also supplement the earning capacity of faculty and staff members and provide part-time work for students. The projects in force involve chemistry, chemical engineering, civil engineering, mechanical engineering, electrical engineering, textile technology, education, home economics, physics, economics, mathematics, veterinary medicine, sociology and psychology.

Extension Teaching Service

ROBERT L. SAUNDERS, *Director*

IN 1925 THE BOARD OF TRUSTEES established the Extension Teaching Division, by this action recognizing a type of service which had been rendered informally for many years. The Board of Trustees sought in this manner to make it possible for residents of Alabama who were unable to come to the campus for study to enjoy the advantages of the instructional service of this institution.

Courses Offered. — Courses offered in extension teaching centers are those listed elsewhere in this catalog. In general, any course which does not require special laboratory equipment is available when a sufficient number of students is interested in having it given.

Extension Teaching Centers. — Members of the faculty are sent out to instruct classes which meet at different centers in the state. The courses given are those listed in the regular catalog. Upon the satisfactory completion of the work the students are given college credit and their records are filed in the office of the Registrar.

Correspondence Study. — Because of the fact that there are many who cannot take advantage of the extension center classes, instruction through the medium of correspondence study has been given for a number of years. English, History, Mathematics, Science, Sociology, and Education are now available. Others are added from time to time as the demand warrants. These courses parallel those given on the campus and have been so prepared as to insure the student the greatest possible mastery of the content and secure for him the utmost contact with his instructor. All of the courses carry college credit. For regulations governing correspondence study see page 71.

Short Courses. — Two types of short courses which do not carry college credit have been given. The first consists of a series of lectures whose purpose is largely cultural. In recent years there has developed a growing appreciation of the fact that mental stimulation and growth are as essential to the adult as to those of younger years. Courses in literature, science, sociology, and art meet with a ready response.

The second type of short course is designed for workers in the field who wish to brush up on the technical developments which have taken place in their fields in recent years. Work of this type is of material value in raising the level of efficiency of those who take part in it.

Club Work and Lecture Service. — This is a form of activity which has been developed to meet the requests for help in preparing and carrying out programs for organizations of different types. At times it takes the form of outlining programs of study, with bibliographies for a year's work. At other times a program of lectures is worked out, the lectures being given by different members of the faculty. Many organizations are provided with speakers and lectures for special occasions.

Teaching Staff. — The instruction in both the extension teaching and the correspondence study departments is carried on by members of the faculty

resident in Auburn. The full staff is listed in the directory of the college personnel in the first section of this catalog.

Teacher Training in Service.— In recent years much emphasis has been placed on the training of teachers in service. It has a double object: to help teachers who need credit for certification purposes; to help those who have completed their normal school courses and those working in the field of secondary education who wish to continue work leading to a college degree. The work offered has been and will continue to be on the senior college level. Each teacher enrolled in a course shall attend at least 80 per cent of the hours for which the course is given.

Credit for Courses.— All certification credit given for extension work shall be based upon the college clock hour; that is, in order to earn three quarter hours of credit, the members of the class must meet the instructor an equivalent of three hours each week for ten weeks and they must make sufficient preparation for their work to total 120 hours.

Certificate Credit Given Extension Work by the Department of Education.— (a) Certification credit may be given only for those courses which offer three quarter hours or more of college credit. (b) Teachers while in service may not earn college credit through correspondence study or extension work in excess of ten quarter hours in any one year. (c) Certification credit may be denied the extension class students of an institution that fails to comply with any of these regulations.

Educational Television

EDWARD P. WEGENER, *Director*

THE EDUCATIONAL TELEVISION DEPARTMENT was established in December, 1954 and began presenting programs in October, 1955. Its main purpose is to bring to the people of the State, by way of the Alabama Educational Television Network, the best material, both informational and educational, the institution has to offer. It serves each School, Division and Department by bringing their resources and materials to the people of the State. Programs are planned not only from the area of general adult education but in in-school, formal education at the high school and college levels and for children outside of school.

Students, selected through a Television Workshop, take an active part in program production and the technical operation of the station. This gives them an opportunity to learn television techniques in actual broadcast situations.

The department is housed in modern studios on the campus. Besides having a normal complement of broadcasting equipment, the department is equipped for the making of double system, sound-on-film motion pictures, from shooting through printing. It is also equipped for the making of kine-scope recordings. From the studios programs originate and are telecast over the Alabama Educational Television Network five days each week, Monday through Friday.

Alabama Educational Television Network programs may be seen over WBIQ, Channel 10 in Birmingham; WCIQ, Channel 7, in Munford, or WAIQ, Channel 2 in Andalusia.

Library Facilities

The libraries of Auburn University include the Main Library and branches for the Schools of Agriculture, Architecture, Chemistry, Engineering, Pharmacy, and Veterinary Medicine.

On July 1, 1959, the libraries contained 261,763 bound volumes and thousands of state and federal government publications. The Library is a depository for both federal publications and those of the Atomic Energy Commission. Experiment station bulletins in both agriculture and engineering are received regularly. Thousands of books, dissertations, and documents are available on microfilm or microcards, as well as important newspaper and other periodical titles. More than 5,000 serials are being received currently. Back files are available for a large portion of these titles.

The Main Library is administratively organized by departments: Acquisitions, Catalog, Circulation, and Reference.

All library materials for the University are located and purchased through the Acquisitions Department, which has available trade lists and catalogs of suppliers and publishers throughout the world.

Materials for all libraries are cataloged through the centralized Catalog Department, where a file of holdings of all libraries in the University is maintained. The classification system is that of the Library of Congress.

The Circulation Department maintains and services the reserve area, the general circulation, the browsing collection in the library rotunda, and the periodicals section. The Department also assigns stack permits and carrels to graduate students and staff members. A file of educational films is available through this Department for class showing.

The Reference Department maintains a large reading, special bibliographic aids, a directory service, the interlibrary loan service for graduate students and staff members, the microcard and microfilm files, and the readers for these materials.

The libraries contain several valuable special collections, most of which were given by friends or patrons. Among these are the George Petrie Memorial Collection, presented by Miss Kate Lane; the Flagg Architecture Library, given by the Alabama Institute of Architects; the Hodson Collection on the History of Agriculture, presented by Mr. Edgar A. Hodson, Arkansas State Agronomist; the personal library of the late Mrs. Ross, widow of Dr. B. B. Ross, a member of the faculty for many years; an excellent sports collection, donated by Mr. C. W. (Bill) Streit of Birmingham. The Library also maintains a collection of documents and publications in Alabama history and government along with the papers and publications of the University in the Alabama Room.

Borrowing privileges are extended to the members of the administrative, research, instructional, and extension staffs of the University, also to governmental departments and agencies located in Auburn. Loan privileges are also extended to all citizens of the state by inter-library loan requests through their local libraries; to all students in residence; and to active, honorary, or research members of the Auburn Research Foundation.

Description of Courses by Departments

This section contains all courses offered in the College listed by departments arranged in alphabetical order.

Courses bearing the number from 000 to 099 inclusive are remedial courses carrying no degree credit; those bearing the numbers 100 to 199, inclusive, are normally offered for freshmen; those from 200 to 299, sophomores; 300 to 399, juniors; 400 to 499, seniors; 500 to 599, fifth year students; 600 to 699, graduate students and, 700, doctoral candidates.

Description of courses in each department include: (a) course number; (b) descriptive title; (c) in parentheses, credit in quarter hours i.e. one quarter (5), two quarters (5-5), etc.; (d) lecture and laboratory hours for courses with laboratory (where no statement is made the course consists of 5 lecture periods); (e) the quarter in which course is offered; (f) prerequisite (Pr.); (g) name of instructor; (h) description of subject matter and method.

Preceding the description of courses for each department is a list of the departmental faculty.

INDEX BY FIELDS OF INSTRUCTION

(Departmental symbols in parentheses)

Aeronautical Engineering (AE)	200	Horticulture (HF)	266
Agricultural Economics (AS)	201	Industrial Laboratories (IL)	269
Agricultural Education (AD)	204	Industrial Management (IM)	270
Agricultural Engineering (AN)	205	Journalism (JM)	271
Agronomy and Soils (AY)	207	Laboratory Technology (LT)	272
Air Science (AF)	210	Library Science (LY)	272
Animal Husbandry & Nutrition (AH)	211	Mathematics (MH)	272
Architecture (AR)	213	Mechanical Engineering (ME)	275
Art (AT)	216	Military Science & Tactics (MS)	277
Botany and Plant Pathology (BY)	218	Music (MU)	278
Building Technology (BT)	221	Naval Science (NS)	284
Chemical Engineering (CN)	223	Pharmacy (PY)	284
Chemistry (CH)	224	Philosophy (PA)	287
Civil Engineering (CE)	226	Physical Education & Ath. Men (PE)	288
Dairy Husbandry (DH)	229	Physical Education for Women (PW)	289
Dramatic Arts (DR)	230	Physics (PS)	293
Economics (EC)	231	Poultry Husbandry (PH)	295
Education (ED)	236	Psychology (PG)	297
Electrical Engineering (EE)	247	Religious Education (RE)	300
Engineering Graphics (EG)	250	Secretarial Training (ST)	300
English (EH)	251	Sociology (SY)	301
Foreign Languages (FL)	254	Speech (SP)	303
Forestry (FY)	256	Textile Technology (TT)	305
General Electives	196	Veterinary Medicine (VM)	307
History & Government (HY)	259	Zoology-Entomology (ZY)	315
Home Economics (HE)	261		

General Elective Courses

Courses listed below are of non-technical and cultural nature offered as lecture and reading courses with three credits per quarter, for use primarily as electives in the junior, senior, and fifth years. With the approval of the dean they may be used as general electives elsewhere in the curriculum.

- AF. Advanced Air Science (3). Lec. 4, Drill 2.**
For students selected.
- AR 360. Appreciation of Architecture (3).**
A survey of architectural development with particular attention to American and contemporary examples. Illustrated lectures, readings.
- AT 332. American Painting and Sculpture (3).**
A survey of American art and artists from the Colonial period to the present day. Illustrated lectures, readings.
- AT 431. Contemporary Art (3).**
A survey of modern painting, sculpture, and industrial design. Illustrated lectures, readings.
- BY 308. Plants and Man (3). Lec. 3. Summer.**
A brief introduction to the botanical characteristics of most categories of plants including their kinship, origin, past and present distribution, and various ways utilized, as timbers, fruits and other foods, fibers, forage, ornamentals, drugs, etc. Local field trips will be made.
- CH 342. Geology (3).**
A course in general geology similar to CH 341.
- DR 313. Drama Appreciation I (3). Not open to Dramatic Arts majors.**
A survey of the theatre and stagecraft from early times to the present day, emphasizing the social and artistic position of the stage in each civilization. Illustrated lectures, readings.
- DR 314. Drama Appreciation II (3). Not open to Dramatic Arts majors.**
A survey of contemporary plays and productions, aimed to make theatre-going intelligent fun.
- EC 206. Socio-Economic Foundations of Contemporary America (3).** Staff
An appraisal and survey of the social and economic developments which lead to and help toward an understanding of present day American society. Economic and social institutional development is studied against the background of the Industrial Revolution.
- EC 301. Geo-Political Basis of World Powers (3). Pr., junior standing.** Gildea and Richardson
Deals with the interaction between the natural-physical environment and the international activities of world powers. Emphasis is placed upon the changing geographic and economic patterns in world affairs.
- EC 340. Personal Finance (3). Pr., junior standing.** Staff
An informative study of plans for managing personal financial problems involving insurance, housing, household budgeting, investments, personal and bank loans, credit and time buying, etc.
- EH 208. Literature of the Western World (3). Pr., EH 101-2 or 103-4 and EH 107 or 108. All quarters.**
The study of about eight significant literary works of the Western World which provide representative views of man in the Medieval, Renaissance-Reformation, and Eighteenth Century periods.
- EH 301. Creative Writing (3). Fall, Spring.** Jones
A course devoted principally to the writing and criticizing of short stories. The student may be permitted to write poetry, drama, or any other form of imaginative literature.
- EH 302. Creative Writing (3). Fall, Spring.** Jones
A continuation of English 301.
- EH 310. Word Study (3). Fall, Spring.**
A study of the history of English words and their meanings with the object of improving the student's command of his language and illustrating for him some of the patterns in the development of human thought.
- EH 320. An Introduction to Drama (3). Winter.**
Representative tragedies and comedies of Europe from antiquity to the present. Such figures as Sophocles, Moliere, Shakespeare, and Ibsen will be considered.
- EH 350. Shakespeare's Greatest Plays (3). Not open to students with credit in EH 451-52.**
A study of some of Shakespeare's masterpieces.

- EH 355. Masterpieces of World Literature (3). Pr., EH 101-2.**
Not open to students who have credit in EH 103-4.
- EH 360. Continental Fiction (3). Winter.**
A study of representative European short stories and novels.
- EH 365. Southern Literature (3). Spring.**
- EH 368. Folk-Lore and the Ballad (3). Winter.**
A study of the folk-lore and ballad tradition.
- EH 381. The Literature of the Age of Reason (3). Fall.**
A study of rationalism, its assumptions and its effects, political, social, and scientific as seen in the works of such major eighteenth-century writers as Locke, Johnson, Burke, Voltaire, and Rousseau.
- EH 385. The Impact of Science and Technology Upon Modern Literature (3). Winter.**
An investigation of a few major 19th and 20th Century writers who reflect in their works the impact of scientific theory and methodology upon traditional, cultural, and philosophical values.
- HE 302. Table Service (3).**
A study is made of the accessories used for table service in their relation to each other and to the complete service of meals. Principles of flower arrangement are studied and forms of the different food services in the home.
- HE 304. Home and Family Life (3). Lec. 3. Each quarter.**
A study of the relationships of family members, economic and social problems at all age levels, and development tasks of individuals. Open to men and women.
- HE 306. Personal Grooming (3). All quarters.**
A study of personal grooming and clothing in relation to its design, cost and upkeep.
- HE 343. Furniture Renovation (3). Lec. 1, Lab. 6. Winter, Spring.** Graves
Practical experience in constructing and renovating furnishings for the home, including refinishing and reupholstering of furniture, making slipcovers and draperies, mattress making, and chair bottoming.
- HE 345. Handicrafts A, B, C, D. (3). Lab. 9.**
A study of execution of popular crafts: viz., metal work, leather work, ceramics, weaving, rug hooking, fabric decoration, and camp craft.
- HE 353. Community and Family Health (3). Lec. 2, Lab. 2. Fall, Spring.** Graves
A study is made of the health facilities available to the home and community. Field trips are included.
- HE 355. Textile Buying (3). Fall, Winter.**
A study of textile fabrics, finishes and trade practice with special emphasis on consumer problems.
- HE 372. Nutrition and Health (3).** Chastain and Van de Mark
A study and application of the fundamentals of human nutrition. Food requirements of different age levels and selection of food at different cost levels are considered. Open to all students except Nutrition or Nursing Science majors.
- HF 225. Flower Arranging (3). Lec. 2, Lab. 2. Fall.**
The principles and practices of flower arranging in the home.
- HY 204. History of the Modern World (3). (Credit in HY 208, 312, and 313 excludes credit for this course.)**
A brief survey of the major periods of modern history and the factors contributing to the Modern World Civilization. (Primarily for students in Engineering curricula.)
- HY 314. American Colonial History (3). Pr., junior standing.**
A survey of the political, economic, and social history of the colonies from their founding through the American Revolution.
- HY 315. International Organization (3). Pr., junior standing.**
This course traces the evolution of international organization from the beginning through the United Nations.
- HY 322. The United States in World Affairs (3). Pr., junior standing.**
A brief survey of the influence which the United States has exerted in international affairs.
- HY 371. History of the West (3). Pr., junior standing.**
A brief history of the development of the West and of its influence on American History.

IM 312. Machine Tabulation (3). Pr., junior standing.

Operation and maintenance of tabulating machines.

MS. Advanced Military Science (3). Lec. 4, Drill 2.

For students selected.

MU 101. Fundamentals of Music I (3).

Open to students in all curricula. An introductory course in the rudiments of music embracing basic terms, notations, rhythm, tonal system, vocal and piano score reading. May not be taken for credit by Music Minors or Majors.

MU 102. Fundamentals of Music II (2). Pr., MU 101.

Open to students in all curricula. May not be taken for credit by Music Majors or Minors. This additional two hours or its equivalent is prerequisite to Music Theory I (MU 201).

MU 351. Appreciation of Music (3). May not be taken for credit by music minors or majors.

Outstanding composers and compositions. No previous music training required, an orientation in the art of listening.

MU 352. Masterpieces of Music (3). May not be taken for credit by music minors or majors.

A study of the representative musical works of each great period of musical history. No previous music training required.

MU 365. Band Arranging (3). By permission.

A project course in arranging various combinations from quartet to symphonic band, and arranging for solo and choral groups.

NS. Advanced Naval Science (3). Lec. 4, Drill 2.

For students selected.

PA 301. Introduction to Philosophy (3).

An introductory survey of the great philosophical systems which underlie and support western civilization. Credit for this course excludes credit for PA 304.

PA 302. Introduction to Ethics (3).

An introduction to the general principles of morality as applied to human conduct. Credit for this course excludes credit for PA 305.

PA 308. Introduction to Logic (3). Not open to students with credit in PA 307.

Designed to acquaint the student with the principles of logical thinking with emphasis upon contemporary scientific procedures.

PG 310. Reading Improvement (3). Lec. 1, Lab. 4. (Not open to students with credit in PG 101.)

A thorough diagnosis of each individual student's present degree of efficiency in the reading process; to design an individual program of improvement for each student.

PG 311. The Behavior of Man (3). (Not available to students with credit in PG 211. May be used as a prerequisite for PG 325, PG 330, PG 345.)

The humanistic aspects of general psychology emphasizing theory and principles of the science of the behavior of man. Includes topics such as: individual differences, motivation, world of form and space, personality in a social environment, and the assessment of man.

PS 217. Astronomy (3).

A brief course in descriptive astronomy, accompanied by occasional observations of the heavenly bodies with a three-inch refracting telescope.

PY 309. Public Health (3). Pr., junior standing.

A non-technical survey of the common communicable diseases including the causative agent, mode of transmission and symptoms. Hygienic, sanitation and immunization control measures are discussed along with the roles of Federal and State health agencies. Not open to students in pharmacy.

RE 301. Religion and Modern Thought (3).

A course dealing with the relation between the philosophical foundations of Christianity and modern thought in other fields.

RE 305. Comparative Religions (3).

A study of the principal religions of the world, including readings in the history and literature of the peoples whose religions are discussed.

RE 306. Studies in the Gospels (3).

A study of the characteristics of the Gospels and the harmony among them.

RE 307. History of the Christian Church (3).

A history of the Christian Church from the close of the New Testament period to the present time with chief emphasis upon the development in Western Europe and in the United States.

RE 308. The Epistles of Paul (3).

A study of the Epistles of Paul in the New Testament; their dates, backgrounds and arguments; the major emphasis of Paul's thought; particular studies of portions of Thessalonians, I Corinthians, and Romans to demonstrate typical Pauline themes.

RE 309. The Prophets of Israel (3).

A history of the Hebrew religion as the background of Christianity. Selected figures of the Old Testament are studied; each seen in his own day seeking to interpret his times in the light of the eternal messages he was called to deliver.

SP 253. Group Leadership (3).

Smith

This course considers the nature and functions of group leadership; the role of democratic leadership in organizing and conducting a group meeting to reach the aims of that group. Students gain leadership experience in class activities designed to help them learn and perfect democratic leadership techniques.

SP 305. Public Speaking (3). Credit in this course excludes credit for SP 231.

The student studies the various methods of preparing speeches and prepares and gives several speeches. Emphasis is on the speech to inform and to convince.

SP 316. Parliamentary Procedure (3).

Designed to aid the individual who may lead or participate in discussions or organizations where orderly procedure is needed. Theory and practice both employed.

SP 334. Great American Speeches (3). Fall, Winter, Spring.

Smith

A critical study and comparison of representative outstanding American speeches; the issues with which they were identified; their relation to the social scene.

ST 113. Personal Typewriting (3). Lab. 6. Not open to those with credit in ST 111 or who have had one high school unit in typing.

Introductory course designed for students who wish to learn typewriting for personal use. Emphasis on touch control of keyboard, centering, appropriate styles for letters, and the preparation of reports. More time spent on the application of fundamentals than on speed.

SY 205. Preparation for Marriage (3).

Bliss

Basic factors in dating courtship, mating selection, and engagement in preparation for marriage and family living.

SY 307. The Court and Penal Administration (3).

Shields

An analysis of the experience of the lawbreaker from arrest through the court and prison to the eventual return to society. Particular attention is paid to correction. (To be offered in alternate years.)

SY 311. Technology and Social Change (3). Pr., junior standing.

Hartwig

The relationship between technological development and changes in modern society. Special emphasis is placed upon the human relations aspects of modern science. Designed primarily to meet social science needs of students in the fields of engineering, agriculture, education, and the physical sciences.

SY 312. Marriage Adjustments (3). Pr., junior standing.

Sanders

A survey of emotional, social and biological factors in the family setting with emphasis upon adjustments of marriage and parenthood.

ZY 205. Wildlife Conservation (3). Winter, Summer.

Pearson

A study of the conservation and natural history of important wildlife animals, especially Alabama fish, amphibians, reptiles, birds, and mammals. Some field trips will be required, as substitute for part of the scheduled lectures.

ZY 206. Conservation in the United States (3). Summer.

Good

A study of the basic facts essential to an understanding of current problems pertaining to the conservation of our rapidly depleting natural resources such as soil, water, minerals, forest, and wildlife. Especially planned for elementary and high school teachers.

ZY 207. Birds (3).

Good

A consideration of birds in relation to agriculture and game management, recognition of various species as to flight, color markings, songs, and feeding habits.

ZY 210. Fish Culture (3). Spring, Summer.

Introduction to the construction and management of ponds, and the principles underlying fish production; also fishing methods, bait production, and the identification of the more common sport fish.

Aeronautical Engineering (AE)

Professors Pitts, Djordjevic, and Martin

Associate Professor Sherling

Assistant Professors Sanders and Williams

Instructors Scheiwe and Mathews

201. Elementary Aeronautics (5).

Introduction to aviation and the basic principles of flight. This course is open to students in all divisions of the college who desire a general and practical knowledge of aviation.

301. Basic Aerodynamics (5). Pr., ME 307, ME 301 or ME 310, and MH 361.

Fundamental study of the atmosphere, thermo and fluid dynamics of air; lift, drag, propeller theory, and aircraft performance.

303. Air Navigation I (5). Pr., MH 112.

Construction of maps and charts; dead reckoning and pilotage; solution, application and practice of navigation problems.

304. Meteorology (5). Lec. 4, Lab. 3. Pr., sophomore standing.

Weather elements as related to operation of aircraft, computation of data; preparation of weather maps.

306. Private Pilot Training—Flight (3). Lec. 1, Lab. 6.

Dual and solo flight instruction as required for the FAA Private Pilot Certificate. Previous flight experience may be substituted for a part of the above. See page 81 for fees.

307. Air Navigation II (5). Pr., AE 303.

Use of navigation instruments and radio aids; celestial navigation; planning of long range flights; practice of problems.

308. Aircraft Structures I (5). Pr., ME 306.

Shear flow distribution in thin-walled box beams and curved webs, unsymmetrical bending, tapered beams, and cutouts.

309. Aerodynamics Laboratory I (1). Lab. 3. Corequisite, AE 301.

Basic aerodynamic investigations and written reports, wind tunnel calibration, basic wind tunnel tests and interpretation of test results.

401. Aeronautical Problems I (1). Lab. 3. Pr., senior standing.

Investigation of current aeronautical problems; preparation and presentation of technical papers and reports.

402. Aeronautical Problems II (1). Lab. 3. Pr., AE 401.

Continuation of AE 401.

403. Stability and Control (5). Pr., AE 404.

Aircraft performance, stability, and control.

404. High Speed Aerodynamics (5). Pr., AE 413.

Fundamental principles of compressible flow, including subsonic, transonic, supersonic and hypersonic aerodynamics, high speed wind tunnels and laboratory techniques.

406. Commercial Pilot Training—Flight (3). Lab. 9.

Dual and solo flight instruction as required for the FAA Commercial Pilot Certificate. Previous flight experience may be substituted for a part of the above. See page 81 for fees.

407. Aircraft Powerplants (5). Pr., junior standing.

Engine nomenclature and types, cycles of operation, lubrication, fuels, carburetion, ignition and starting systems, engine-propeller performance, introduction to jet propulsion.

408. Aerodynamics Laboratory II (1). Lab. 3. Corequisite, AE 403.

Experimental determination of aircraft stability derivatives, including effect of aircraft configuration changes.

409. Aircraft Structures II (5). Pr., AE 308.

Compression members, buckling of flat and curved plates, shear and combined loads, deflection, strain energy, and redundancy.

411. Airplane Design (5). Lec. 3, Lab. 6. Pr., AE 409.

Analysis of aerodynamic loadings; structural design of aerodynamic shapes; preparation of a report containing the load and structural analysis of a suitable component.

412. Airplane Structures Laboratory (2). Lab. 6. Corequisite, AE 409.

The use of electrical and optical strain gauges; experiments in torsional rigidity, column stability, and buckling of thin sheets; combined loading and stress distributions in monocoque structures; techniques of experimental stress analysis.

413. Theoretical Aerodynamics (5). Pr., AE 301, MH 403; corequisite, MH 404.

Fundamental principles of aerodynamics, potential flow theory, and dynamics of viscous fluids. Correlation of potential flow theory with experimental results.

415. **Rocket and Jet Propulsion (5).** Pr., ME 301 or ME 310, and AE 301 or ME 313.
Thermodynamic cycle of rocket and jet engines, air compressors, and gas turbines. Flow of gasses through ducts and nozzles.
416. **Airport Management (5).** Pr., junior standing.
Principles of management; financing the airport; sources of income; establishment of rates for services rendered; problems of equipment and airport maintenance; accounting procedures; legal responsibilities; merchandising.
417. **Airline Operation (5).** Pr., junior standing.
History of airlines; financial structure and sources of capital of airlines; sales, reservations and space control; dispatching and passenger care; determination of tariffs; personnel relations; research; public relations.
418. **Air Transportation (5).** Pr., junior standing.
Historical development and present status of air transportation facilities; regulation, state and federal; legal characteristics of air transportation industry; problems and services of commercial air transportation.
419. **Air Traffic Control (5).** Lec. 4, Lab. 3. Pr., junior standing and AE 307.
A study of all facilities used in controlling air traffic with special emphasis on control center and control tower operation.
420. **Civil Air Regulations (5).** Pr., junior standing.
A study of all regulations concerning competency of pilots, airworthiness of aircraft, control of air traffic, and the elimination of undesirable flying practices.
423. **Flight Instructor Training (3).** Lec. 1, Lab. 6. Pr., a valid Commercial Pilot Certificate.
Instruction in the theory, methods and technique of flight training. Sufficient ground and flight instruction is given to qualify for the FAA Flight Instructor Rating. See page 81 for fees.
424. **Instrument Flying (3).** Lab. 9. Pr., a valid Private or Commercial Pilot Certificate.
Ground and flight instruction in the theory and practice of instrument flying. See page 81 for fees.
425. **Aircraft Components (5).** Pr., junior standing.
Design, installation, use, and function of hydraulic, mechanical, and electrical systems and equipment of aircraft.
427. **Multi-Engine Training (3).** Lab. 9. Pr., a valid Private or Commercial Pilot Certificate.
Instruction in the methods and techniques of multi-engine aircraft pilotage. Sufficient ground and flight instruction is given to qualify for the FAA pilot rating of Multi-Engine—Land. See page 81 for fees.
429. **Aircraft Vibration and Flutter (5).** Pr., MH 361, ME 307, and AE 301.
Lagrangian equation of motion, linear and multiple degree-of-freedom systems, coupled and uncoupled beam vibration, flutter theory.
430. **Rotary Wing Aircraft (5).** Pr., AE 301.
Rotary wing flight characteristics and basic aerodynamics including stability, control, vibration, and performance.
431. **Astronautics (5).** Pr., AE 301 and MH 404.
Trajectory analysis, including applications of digital and analog computers, ballistic missile range parameters and deviation coefficients; satellite orbits and rocket interplanetary trajectories.

Agricultural Economics (AS)

Professors Lanham, Blackstone, Danner, and Yeager

Associate Professors Chastain, Kern, and White

Assistant Professor Partenheimer

Agricultural Economics as a specialized field has increased in importance as commercial aspects of agriculture have increased. As a supporting field to other subject-matter areas, it has increased in importance as economic, social, and political factors have increased in all of agriculture.

Agricultural Economics is concerned with the business aspects of agriculture—from the acquisition, organization, and management of farms to the operation of businesses concerned with the processing and distribution of farm products—and with all businesses that service the needs of agriculture. Thus, Agricultural Economics is concerned with the economics of producing, processing, and marketing farm-produced products, with prices paid for these products, and with prices paid for goods and services used by agricultural firms. It deals not only with the individual farm, but also

with private and public agencies affecting agriculture. This field of study embraces subject-matter areas including farm organization and management, economics of production, agricultural marketing, farmers' cooperatives, rural business management, agricultural prices, agricultural credit and financing, public policy, land problems and policies, and other related areas.

101. Agricultural Orientation (0). Lec. 1. All quarters. (Required of all students in School of Agriculture).

202. Agricultural Economics (5). All quarters. Pr., sophomore standing. Principles of economics as applied to agriculture. Agriculture in the national and state economy. An orientation in Agricultural Economics dealing especially with economic principles involved in changes and trends in farm-related production, marketing, prices, consumption, taxation, credit, finance, public policies, tenure, etc., and with utilization of land, labor, and capital.

301. Agricultural Marketing (5). All quarters. Pr., AS 202 or EC 201. Principles and problems involved in marketing farm products. Analysis of marketing functions, services, and costs; reducing costs and improving marketing efficiency. Marketing methods and distribution channels of major farm commodities. Market institutions and operation.

302. Farm Records (3). Fall, Summer. Pr., AS 202 or EC 201. Farm records and accounts and their uses. Kinds and systems of records and accounts adapted to use on Alabama farms. Using farm records to aid in the successful and profitable operation of farm businesses; in the integration of farm and home development; to complement necessary records for income and Social Security tax purposes; and as a basis for analyzing and planning farm businesses.

401. Farm Management (5). All quarters. Pr., AS 202 or EC 201 and junior standing. Principles and problems involved in acquiring, organizing, and operating a successful farm business. Formation and integration of family and farm business goals. Development of managerial skill for farming, farm and home development work, and professional farm management work.

403. Agricultural Prices (3). Winter. Pr., AS 202 or EC 201 and junior standing. Principles and factors involved in the pricing process with special reference to agricultural products and markets. Function of prices and principles of supply and demand in price determination. Sources of farm price data and methods of price analysis. Policy implications of economic principles as applied to farm price policy programs.

404. Cooperation in Agriculture (3). Spring. Pr., AS 202 or EC 201 and junior standing. Principles and problems of organizing and operating farmers' cooperative buying and selling associations. History, importance, and types of cooperative, non-profit, and mutual associations. Development of cooperative action, collective bargaining, and cooperative organization. Analysis of cooperatives in the economy and comparisons with other forms of business organization.

405. Agricultural Policy (3). Fall, Spring. Pr., AS 202 or EC 201 and junior standing. Concepts, objectives, and operation of public policies affecting agriculture. Development of agricultural policies in the United States. Alternative methods of dealing with farm problems at national, state, and local levels, and analyses of interrelationships with other public policy programs. Evaluation of consequences for farmers, consumers, and taxpayers. Emphasis is on current agricultural policies and proposals.

408. Agricultural Financing (3). Winter. Pr., AS 202 or EC 201 and junior standing. Economic problems and policies in financing agriculture. Capital requirements and credit needs; sources, availability, and costs of capital and credit; principles of lending, borrowing, and investment; voluntary and involuntary capital rationing; institutional developments for improving allocation of capital and credit. Emphasis is on both public and private credit institutions and on financing problems and policies in Alabama agriculture.

409. Farm Appraisal (3). Spring. Pr., AS 202 or EC 201; AY 304, 305, or 307; and junior standing. The theory of land values; techniques of farm land and building appraisals for different purposes; relationships of land use, soils, crops, forestry management, buildings, land titles, farm prices, taxes, and interest rates to land values; actual appraisals of selected farms; evaluation of appraisal methods and forms currently in use.

410. Agricultural Business Management (3). Fall. Pr., AS 202 or EC 201; and junior standing. Principles and problems involved in acquiring, organizing, and operating successful agricultural businesses; capital requirements for selected agricultural businesses, factors affecting location and growth, and measures of technical and economic efficiency in organization and operation; practices involved in buying, pricing, and merchandising; management problems and policies in financing, personnel, and public relations.

GRADUATE COURSES

601. **Advanced Farm Management (5).** Fall, Spring. Pr., Approved graduate standing or consent of instructor.
Advanced theory and application of farm management principles and other economic concepts to agriculture. Emphasis is on successful and profitable organization, operation, and management of various types of farms. Optimum utilization of available resources on individual farms.
602. **Advanced Agricultural Prices (5).** Winter, Summer. Pr., EC 345 and Graduate standing or consent of instructor.
Methods of price analysis, separation of fluctuations from price trends, measurement of changes in supply and demand of farm products. Factors affecting prices, price trends, price cycles, and other price structures. Interrelated demands, elasticity concepts, appraisal of recent supply and demand studies. Emphasis is on agricultural products.
603. **Land Economics (5).** Fall, Spring. Pr., Graduate standing or consent of instructor.
Principal economic and institutional factors affecting man in his use of land. Supply, demand, and future requirements for land. Property rights, land planning, zoning, and other social controls affecting land utilization. Land appraisal and valuation. Successful enterprise location. Rural and urban development, use, and conservation of land resources.
604. **Advanced Cooperative Marketing (5).** Winter, Summer. Pr., Graduate standing or consent of instructor.
Cooperative theory and practices. Detailed study of history and development of cooperative movement in the United States and selected foreign countries. Special emphasis on current cooperative marketing status with respect to organization, legal status, and current operating policies and methods used by selected farmers' cooperatives.
605. **Advanced Agricultural Marketing (5).** Fall, Spring. Pr., Graduate standing or consent of instructor.
Theory of marketing with emphasis on its application to methods used and problems faced in marketing Alabama-produced farm products. Objectives in agricultural marketing. Marketing orders and agreements, marketing quotas, and other policy programs affecting marketing. Margins, futures, prices, grades, transportation, storage, advertising, promotion, etc., as they affect farmers' marketing. Marketing survey methods.
608. **Economics of Agricultural Production (5).** Winter, Summer. Pr., EC 451 and Graduate standing or consent of instructor.
Resource allocation and efficiency of production. Production and efficiency in the firm, between firms, and between agriculture and other industries. Influences on agricultural resource allocation and efficiency of risk and uncertainty including price instability, institutional changes, technological advances, imperfect knowledge of production methods, and variations in the human element with emphasis on the role of management.
651. **Farm Organization and Management (3).** Lec. 4. Pr., Graduate standing.
Formation and integration of family and farm business goals; acquisition, organization, operation and management of successful farm businesses; organization and management of efficient farm units; development of managerial skill for farming, farm and home development work, and other farm management work; field study of organization, operation, and management of selected farms. (Credit for both AS 651 and AS 601 may not be used to meet requirements for the Master's degree.)
652. **Agricultural Prices and Marketing (3).** Lec. 4. Pr., Graduate standing.
Principles and problems in marketing agricultural products. Objectives in agricultural marketing. Factors involved in the pricing process of agricultural products and markets. Function of prices and principles of supply and demand in price determination. Sources of farm price and market data, and methods of price and market analysis. Implications of current farm price policy and marketing programs. (Credit for both AS 652 and AS 602 may not be used to meet requirements for the Master's degree.)
653. **Public Policy in Agriculture (3).** Lec. 4. Pr., Graduate standing.
Concepts, objectives, and operation of public policies affecting agriculture; development of agricultural policies in the United States; alternative methods of dealing with farm problems and opportunities at national, state, and local levels, and analysis of interrelationships with other public policy programs; evaluation of consequences for farmers, consumers, and taxpayers; emphasis on current agricultural policies and programs, and on current public policy.
670. **Research Methodology in Agricultural Economics (3).** Winter, Summer. Pr., graduate standing and consent of instructor.
Introduction to scientific method and its application in planning and conducting research in Agricultural Economics; nature and limitations of economic analysis; problem selection, project planning, analytical framework, development and use of questionnaires, sampling procedures, control groups, obtaining and analyzing data, and interpreting and presenting

results; evaluation of current research procedures in Agricultural Economics and related areas.

680. Advanced Agricultural Economics Problems. Credit to be arranged. All quarters.
 690. Seminar. (1-1-1). Fall, Winter, Spring.
 699. Research and Thesis. Credit to be arranged. All quarters.

Agricultural Education (AD)

Professor Montgomery
Associate Professors Bottoms, Deloney, and Gandy
Assistant Professor Pruett

Courses in Agricultural Education are concerned chiefly with the preparation of Teachers of Vocational Agriculture and related occupations. However, the Department is in the School of Education and offers courses of general educational interest in visual aids, adult education, vocational education and in school and community relations.

346. Vocational and Practical Arts Education (3). Winter.
 Ways of studying occupational needs and developing and operating local program of vocational and practical arts education.
405. Farm Shop (5). Lec. 2, Lab. 6. Fall, Spring. Bottoms
 Methods of teaching as integrated with the study of such jobs and problems as selection, sharpening, care and use of shop tools and equipment; wood work and simple carpentry; sheet metal work; elementary forge work; electric arc and oxyacetylene welding; rope work; and leather work.
406. Farm and Home Construction and Maintenance (5). Lec. 2, Lab. 6. Winter, Summer. Bottoms
 Procedures and abilities needed for teaching such jobs and problems as elementary scale drawing and plan reading; farmstead layout; functional requirements of farm houses, shelter, and storage, water system; septic tanks and sewage disposal; heating; concrete work; and painting.
407. Practicum in Farm Electricity (5). Lec. 2, Lab. 6. Spring, Fall. Bottoms
 Utilization of electricity in the home, school and community enterprises; selection, installation, operation and maintenance of electrical equipment; electrical devices for school and community exhibits. Field assignments will be made.
408. Teaching Farm Mechanics (5). Lec. 3, Lab. 4. Summer. Pr., Junior standing. Bottoms
 Objectives and methods; equipment and management of farm shop; organization of projects; recent developments in farm mechanics; in-service teaching problems. Students will plan and demonstrate methods of teaching mechanical skills.
446. Methods in Vocational Agriculture (5). Fall, Spring. Montgomery, Pruett
 Methods and materials in the teaching of vocational agriculture.
456. Teaching Aids in Agricultural Education (4). Lec. 3, Lab. 3. Fall, Spring. Deloney
 The preparation and use of materials in teaching vocational agriculture.
466. Teaching Out-Of-School Groups (5). Fall, Spring. Gandy, Pruett
 Conducting young farmer and adult classes and working with community groups in such procedures as community study, promotional and organizational procedures, teaching groups, and on-farm instruction.
485. Audio-Visual Materials (5). Lec. 4, Lab. 2. Winter, Summer. Pr., Junior standing. Deloney, Gandy
 Examination and evaluation of films, filmstrips, slides, exhibits, charts, maps, globes, recordings and recording devices, radio and television programs. Attention is given to the contribution of audio-visual materials to the elementary and secondary school curriculum, to sources of audio-visual materials, and to the operation, care and housing of necessary equipment.
486. Student Teaching (15). Pr., senior standing. Fall, Winter. Staff
 One quarter of teaching, including all aspects of the work of a teacher of vocational agriculture, such as in-school teaching, young farmer and adult classes, on-farm instruction, and community work, will be required.

COURSES PRIMARILY FOR GRADUATE STUDENTS

Special courses are offered to teachers of vocational agriculture in the first term of each summer quarter. Various departments offer 400 and 600 courses that may be selected for the minor upon approval. A list of suggested courses may be obtained

from the Department of Agricultural Education. Graduate courses are offered in the regular quarter schedule and on Saturdays.

- 601. Social Foundations in Education (5). Winter, Summer.** **Montgomery**
Man as a social being, his relationships, his social inventions, including community organization and structure, his mores and value patterns, decision making, leadership and fellowship, their significance for educational goals, the curriculum, teaching, learning and leadership. (Selected portions of this course may be offered as a three (3) credit hour course in the Master of Agriculture program.)
- 602. Teacher Education in Agriculture (5). Summer.** **Deloney**
Designed for supervisors, supervising teachers, teacher trainers and other graduate students preparing for work in teacher education in agriculture. State organization for teacher training; duties and responsibilities of those involved; analysis of content of teacher training courses; standards for training schools; in-service training and supervision; and a review of research in the field. Individual problems.
- 604. Adult Education (5). Summer, Winter.** **Pruett**
Analysis of the problems and organizations of adult groups, including the need for adult education; the nature of adult learning; procedures in organizing adult groups; creating and maintaining interest; selection of reading materials; teaching procedures appropriate to adult groups; follow-up and supervision; and fostering particular adult interest groups in rural communities. Selected portions of this course may be offered as a 3-credit hour course at off-campus centers.
- 605. Young Farmer Education (5). Summer.** **Gandy**
An analysis of the problems related to young farmer programs in vocational agriculture with attention to the development of objectives and procedures in the organization and conduct of such instruction.
- 606. Problems Solving Techniques (5). Summer.** **Montgomery**
The problem method as applied to the teaching of vocational agriculture, and to the investigation and reporting of real problems encountered by teachers.
- 607. Seminar in Research in Agricultural Education (4). Winter, Summer.** **Staff**
Review and criticism of contributions of research in agricultural education; using research in solving current problems; needs for additional research; planning of a comprehensive study or completion of a small study.
- 609. Selection, Creation and Use of Audio-Visual Materials (5). Lec. 3, Lab. 4. Pr., AD 485 or consent of instructor. Winter, Summer.** **Deloney, Gandy**
Selection and use of various materials for specific educational purpose and the production of materials as learning experiences. Skills and techniques used in the production of graphic materials, an analysis of the effectiveness of various materials, and the factors involved in developing a desirable audio-visual aids program for a school system are studied.
- 651. Research Studies in Agricultural Education (2-5).** **Staff**
See description under ED 651.
- 699. Thesis Research. Credit to be arranged. May be taken more than one quarter.** **Staff**

Agricultural Engineering (AN)

*Professors Kummer and Neal
Research Lecturers Cooper, Gill, Nichols, and Reed
Associate Professors Renoll and Dumas
Assistant Professor Richardson*

Agricultural Engineering is the application of fundamental engineering principles to the solution of the problems of agriculture.

The courses offered by the Agricultural Engineering Department are designed to give the student a conception of modern methods of agricultural production, and the conservation and utilization of land, buildings, and equipment.

Students planning to prepare themselves for agricultural engineering work should consult with members of the agricultural engineering staff.

Work leading to the Master of Science and Doctor of Philosophy degrees for Agricultural Engineers is offered. (See Graduate Bulletin for detailed information.)

- 101-2. Introduction to Agricultural Engineering (0). Lec. 1. All quarters.** **Staff**
Orientation and consultation for all freshmen and new students.
- 201. Farm Machinery (5). Lec. 3, Lab. 6. Fall. Pr., EG 105.** **Renoll**
Operation, repair and design of tillage, planting, harvesting and processing equipment.
- 301. Drainage and Terracing (5). Lec. 3, Lab. 6. Fall, Spring, Summer.** **Neal**
Practical applications of drainage and terracing.

- 302. Farm Buildings and Sanitation (5).** Lec. 3, Lab. 6. Winter. Dumas
Design, construction, equipment, care and repair of farm buildings. Laboratory periods are devoted largely to building design, concrete work and plumbing.
- 303. Farm Machinery and Equipment (5).** Lec. 3, Lab. 6. Spring, Fall, Summer. Dumas
Selection, operation, and servicing of mechanical farm equipment used in seedbed preparation, planting, cultivating, and harvesting.
- 304. Rural Electrification (5).** Lec. 3, Lab. 4. Spring. Pr., EE 202. Richardson
Types and sizes of wiring, equipment and motors suitable for rural lines. Safety precautions.
- 305. Farm Tractors and Engines (5).** Lec. 3, Lab. 4. Winter. Neal
Selection, operation, and servicing of tractors and engines employing different principles of operation and fuels.
- 306. Farm Building Construction (3).** Lec. 2, Lab. 3. Winter. Dumas
Materials and methods of farm buildings construction. Selection, repair, and use of farm buildings.
- 307. Farm Wiring and Motors (3).** Lec. 2, Lab. 3. Spring. Richardson
Fundamentals of residential and farmstead wiring. Selection, operation, and care of farm motors.
- 308. Crop Processing and Materials Handling (3).** Lec. 2, Lab. 3. Fall. Pr., soph. Staff
standing.
The principles and methods of farm crop processing systems including drying, storing, pelleting, mixing and mechanical handling of farm products.
- 401. Farm Power (5).** Lec. 3, Lab. 4. Winter. Pr., ME 310, junior standing. Renoll
Fundamental principles of operation of gas engines and tractors. Laboratory practice in operating, adjusting, and testing.
- 403. Drainage and Terrace Design (5).** Lec. 4, Lab. 3. Fall. Pr., CE 210, ME 434, Neal
junior standing.
Design of drainage and terrace systems; including size, shape, depth and spacing of open and closed drainage channels.
- 404. Rural Engineering (5).** Lec. 3, Lab. 4. Winter. Pr., ME 310, junior standing. Richardson
Selection, operation, and servicing of heating, ventilating, refrigerating, and drying systems for farms and rural communities.
- 405. Irrigation Design (5).** Spring. Pr., AN 403 and Junior standing. Neal
The design of flood, furrow, and sprinkler irrigation systems, including the development of water supply sources, pumping and power requirements; the determination of irrigation efficiencies and techniques.
- 406. Dairy Engineering (3).** Lec. 2, Lab. 3. Winter. Richardson
Selection, operation, and servicing of steam generating and refrigerating plants, indicating and recording instruments, design and arrangements of dairy buildings.
- 407. Farm Machinery Design and Testing (3).** Lec. 2. Lab. 3, Fall, Spring. Pr., Renoll
AN 201, junior standing.
Determination of drawbar and belt horsepower requirements for different machines and equipment using dynamometers and electrical resistance strain gages. Design, construction, and evaluation of component parts of farm machinery including machine efficiency studies.
- 408. Farm Power Design and Testing (3).** Lec. 2, Lab. 3. Winter. Pr., AN 401, Renoll
junior standing.
Testing and calibrating tractors and power units with resistance strain gages, eddy-current dynamometers and electronic measuring devices. Tractor design and construction will be evaluated in terms of thermal efficiency, fuel consumption, horsepower produced, tractor stability, and traction efficiency.
- 409. Irrigation Design Lab. (2).** Lab. 5. Spring. Pr., AN 403 and co-requisite or Neal
prerequisite AN 405.
Design and calibration of water measuring devices used in irrigation, such as weirs, flumes, orifices and siphons; stream flow measurement; techniques of measuring soil infiltration and water holding capacity. Selection and design of irrigation systems for optimum performance and the application of engineering techniques to land forming.
- 422. Farm Power and Equipment (5).** Summer. $\frac{1}{2}$ quarter course. Pr., AN 303, Staff
junior standing. For Vocational Agriculture Teachers.
- 424. Farm Electrification (5).** Summer. $\frac{1}{2}$ quarter course. Pr., junior standing. For Richardson
Vocational Agriculture Teachers.
- 426. Farm Irrigation (5).** Summer. $\frac{1}{2}$ quarter course. Pr., junior standing. For Vo- Neal
cational Agriculture Teachers.

432. **Engineering in Agriculture I—Agricultural Machinery (3).** Lec.-Dem. 4. Pr., graduate standing. **Renoll**
The utilization of modern agricultural machinery on the farm with emphasis on safety, management, costs, economic justification, and principles of operation. (Credit for both AN 432 and AN 422 may not be used to meet requirements for the Master's degree.)
434. **Engineering in Agriculture II—Agricultural Power (3).** Lec.-Dem. 4. Pr., graduate standing. **Renoll**
Study of farm tractor and power units used on the farm; includes the basic principles of operation with major interest toward lubrication, costs, operational problems, safety and a comparison of gasoline, Diesel, and LP gas fuels, and units. (Credit for both AN 434 and AN 422 may not be used to meet requirements for the Master's degree.)

COURSES PRIMARILY FOR GRADUATE STUDENTS

601. **Land Conservation and Development (5).** Lec. 4, Lab. 3. Pr., AN 403. **Neal**
Fundamental principles of hydrology and soil physics applied to the soil erosion process and engineering practices for erosion control. Principles of design for farm drainage and irrigation systems.
602. **Advanced Farm Power and Machinery (5).** Arrange. Pr., AN 201 and 401. **Renoll**
Principles of operation and analysis of design of basic machine elements, hydraulic systems and functional requirements of farm power units, agricultural machinery and materials of construction.
603. **Theory of Irrigation and Drainage (5).** Pr., AN 405, CE 612 and AY 455°. **Bouwer**
Analytical, numerical, and analogue solutions of flow of liquids in porous media problems with special application to drainage and irrigation, unsaturated flow, in situ measurement of soil permeability, principles and applications of centrifugal, mixed flow, and propeller pumps.
604. **Agricultural Engineering Problems.** (Credit to be arranged). Pr., AN 404. **Staff**
Special advanced engineering and design problems in the application of electricity to farm uses, the design and construction of farm structures and processing equipment, the physical properties of soil in relation to tillage implement design and the application of modern testing and measuring techniques to agricultural engineering research.
605. **Soil Dynamics (5).** Pr., AY 455. **Kummer**
Analysis and measurements of soil reactions, as affected by the physical properties of the soil, when subjected to forces imposed by tillage implements and traction devices. Among the soil physical properties considered are shear, cohesion, adhesion, consolidation, plasticity and abrasion.
608. **Seminar.** Credit to be arranged. All quarters. **Staff**
Reviews and discussions of research techniques, current scientific literature and recent developments in agricultural engineering research.
699. **Research and Thesis.** Credit to be arranged. **Kummer**
May be taken more than one quarter.
799. **Doctoral Research and Dissertation.** Credit to be arranged. **Staff**

Agronomy and Soils (AY)

*Professors Rogers, Donnelly, Ensminger, Hood, McCain, Rouse, Scarsbrook,
Sturkie and Wear*
Associate Professors Adams, Hiltbold, Hoveland, Johnson, Patterson
*Assistant Professor Dixon, Patrick**
Instructor Banks

Agronomy is the science of soil management and field crop production. Courses in crops are designed to give a student a thorough knowledge of the principles involved in the economic production of feed, fiber, pasture and other forage crops. Courses in soils give special attention to the principles of soil formation and classification, and soil fertility and management, including soil conservation and the use of fertilizers.

These courses are designed to prepare students for farming; for employment in related industries such as the fertilizer, seed and soil management services; and for employment by state and federal agencies such as the Extension Service, Experiment Station, Soil Conservation Service, and Farm and Home Administration.

The Department offers graduate work toward the Master of Science and Doctor of Philosophy degrees. An option may be taken in crops or soils. Advanced courses

* On leave.

in Agronomy and related fields fulfill the needs of graduate students in the following specialized areas: soil chemistry; soil fertility; soil microbiology; soil physics; soil morphology, genesis and classification; plant breeding; forage, fiber and grain crop production; weed control; crop ecology including agroclimatology; and turf management. Prospective students are referred to the current Bulletin of the Graduate School for details.

201. Grain Crops (5). Lec. 4, Lab. 2. All quarters.

This course deals with the fundamental factors involved in the economical production of corn, small grains, grain sorghum, peanuts and soybeans.

304. General Soils (5). Lec. 4, Lab. 2. Fall, Winter, Spring. Pr., CH 103-104 and CH 205.

A survey course dealing with the formation, classification, composition, properties, management, fertility, and conservation of soils in relation to the growth of plants.

305. General Soils (5). Lec. 4, Lab. 2. Winter. Pr., CH 103-104.

A survey course dealing with the formation, classification, composition and properties of soils and their influence on vegetative growth and development on forest lands. Open only to students in Forestry.

306. Soil Morphology and Survey (3). Lec. 1, Lab. 4. Spring. Pr., AY 304.

Specially designed to fit students for employment as soil surveyors in state and federal agencies. To be given only when a sufficient number of students elect it.

307. General Soils (5). Lec. 4, Lab. 2. Fall, Spring. Pr., CH 101-102 or 103-104.

Survey of the general field of soils including genesis, classification and fertility. Open only to students in Vocational Agriculture.

401. Forage Crops (5). Lec. 4, Lab. 2. Fall, Winter, Spring, Summer. Pr., junior standing.

This course deals with both grass and legume forage crops. The crops are considered from the standpoint of (a) pasture crops, (b) hay and silage crops, (c) soil improving crops.

402. Soil Fertility (5). Lec. 5. Spring. Pr., AY 304, 305 or 307, and junior standing.

Lectures, demonstrations and problems designed to illustrate principles of soil fertility as related to fertilizer practices and crop production. An advanced course required of all students majoring in Agronomy and Soils. Either AY 402 or AY 407, but not both, may be used to satisfy the minimum requirement for the Master's degree.

403. Grazing Crops in Alabama (5). Lec. 3, Lab. 4. Fall, Spring. Pr., AY 401, and junior standing.

A study of the establishment, maintenance, and management of crops used in grazing systems in the various soil and geographic areas of Alabama.

404. Cotton Production (5). Lec. 5. Fall, Winter. Pr., junior standing.

Most of the time will be devoted to cotton. A limited amount of time will be devoted to other fiber crops.

405. Turf and Its Management (3). Lec. 2, Lab. 2. Pr., AY 304, BY 306, BY 309, and junior standing.

A consideration of species of turf crops in relation to latitude, soil type, shading, establishment, fertility, and maintenance.

406. Commercial Fertilizers (3). Lec. 3. Winter. Pr., AY 304, 305 or 307, or by special permission of instructor; also junior standing.

A study of raw material reserves; manufacture, and properties of fertilizer materials; properties and formulation of mixtures; relative efficiency of various plant nutrient sources; and related agronomic problems.

407. Soil Management (5). Lec. 5. Summer. Pr., AY 304, AY 305, or AY 307, and junior standing.

A study of the physical, chemical and biological properties of soils and their management. An advanced course designed for students in Vocational Agriculture. Either AY 402 or AY 407, but not both, may be used to satisfy the minimum requirement for the Master's degree.

409. Seed Production (3). Lec. 2, Lab. 2. Pr., AY 201, 401 and junior standing.

A study of methods and factors affecting production, storage, and processing seed.

410. Methods of Plant Breeding (3). Lec. 2, Lab. 2. Pr., ZY 400 and junior standing.

A general course designed to acquaint students with the principles and methods of plant breeding.

411. Soil Management (3). Lec. 4. Pr., AY 304, 305 or 307 and graduate standing.

A study of the classification, physical properties, moisture, organic matter, and pH of soils, and their management with respect to these properties. (Credit for both AY 411 and AY 402, or AY 407 may not be used to meet requirements for the Master's degree.)

412. **Advanced Forage Crops (3).** Lec. 4. Pr., AY 401 and graduate standing.
A study of the forage species and mixtures, their establishment, maintenance and management for different soils and systems of grazing. (Credit for both AY 412 and AY 403 may not be used to meet requirements for the Master's degree.)
453. **Geomorphology (5).** Lec. 4, Lab. 2. Pr., AY 304, 306, and senior standing.
A study of the structure and physiography of the earth's crust and its relation to soil parent material.
454. **Soil Genesis and Classification (5).** Pr., AY 453 and senior standing.
A study of the factors and processes influencing soil formation, and the systems of classification.
455. **Soil Physics (5).** Pr., AY 304 and junior standing.
Lecture and demonstrations to illustrate fundamental physical properties of soils.

GRADUATE COURSES

601. **Agronomy Problems (1-5).** Credit to be arranged.
Conferences, problems, and assigned reading in soils and crops, including results of agronomic research from the substations and experiment fields.
602. **Plant Biological Chemistry (5).** Fall. Pr., CH 203 or CH 207.
Biochemical reactions and factors influencing them. Major emphasis is placed on those reactions concerning plants. This course will be given only when a sufficient number of students want the course. The course is required of graduate students majoring in Agronomy and Soils.
606. **Soil Microbiology (5).** Lec. 3, Lab. 4. Pr., AY 402 and VM 420.
A study of soil microorganisms and their physiological processes related to soil development and plant nutrition. The role of microorganisms affecting the chemical and physical properties of soils will be studied, with emphasis on the cyclical transformations of nitrogen, phosphorus, carbon, and sulfur. (To be given in alternate years.)
608. **Experimental Methods (5).**
This course deals with experimentation in the agricultural sciences including experimental techniques, interpretation of research data, use of library references and preparation of publications; and consists of problems, assigned readings, and lectures. Required of all students majoring in Agronomy and Soils. This course will be given only when sufficient students want the course to justify its being taught, but will not be given more frequently than once a year.
613. **Theories and Applications in Agronomic Research (2).**
614. **Plant Science Seminar (1).** Fall, Winter, Spring.
Study of the literature in Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Emphasis will be given to preparation, organization and presentation of material by the students. This is a joint seminar among the departments of Agronomy and Soils, Botany and Plant Pathology and Horticulture. Required of all graduate students in these departments.
615. **Seminar in Genetics (1).** Pr., ZY 400.
Reports will be presented by students and staff members on current research and the literature in the field of genetics.
616. **Advanced Plant Breeding (5).** Lec. 4, Lab. 2. Pr., ZY 400.
Principles, methods, and techniques involved in plant breeding. Laboratory work will consist of studying active plant breeding programs, studying pollination techniques, and making pollinations. A term paper will be required.
617. **Experimental Evolution (3).** Pr., ZY 400 and BY 616.
A study of the factors affecting the evolution of species.
618. **Crop Ecology (5).** Pr., BY 306, 413, and AY 402.
A study of environmental factors influencing the growing of crop plants.
619. **Fundamentals of Production and Management of Grazing Crops (5).** Lec. 3, Lab. 4. Pr., BY 306, 309, AY 402 and 403.
The principles involved in successful establishment, maintenance and management of crops used for grazing.
620. **Philosophy and Interpretation of Experimental Research (3).** Lec. 4. Pr., graduate standing.
A systematic study of the principles and methods of experimental research; the utility of experimental designs; and the utilization of statistical and graphical aids in the interpretation of data. Mathematical comparisons of the efficiency of designs and calculations of statistical values are not a part of this course.
654. **Advanced Soil Fertility (5).** Pr., CH 206, AY 402 and 606.
Composition and properties of soils in relation to the nutrition and growth of plants.
655. **Soil and Plant Analysis (5).** Lec. 2, Lab. 6. Pr., CH 206 and AY 402.
Principles, methods, and techniques of quantitative chemical analysis of soils and plants applicable to soil science.

656. Soil Mineralogy (5). Lec. 4, Lab. 2.

A study of the crystal structure and properties of the more important soil and clay minerals combined with identification techniques involving X-ray, differential thermal analysis, electron microscopy and petrographic microscopy.

657. Advanced Soil Chemistry (5). Pr., CH 314, AY 655 and 656.

Physico-chemical properties of soil colloids.

658. Advanced Soil Physics (5). Lec. 2, Lab. 6. Pr., MH 201-202, PS 205-206, and AY 455.

The physical properties of soils in relation to plant growth. Emphasis is placed on methods of measuring soil physical properties and the interpretation of these measurements in terms of plant growth.

699. Research and Thesis. Credit to be arranged.

Research and thesis on problems related to crop production, plant breeding, soil fertility and soil chemistry.

799. Doctoral Research and Dissertation. Credit to be arranged.

Air Science (AF)

Air Force ROTC Program of Instruction

BASIC COURSE

First Year (Freshman)

Air Science I. Foundations of Air Power.

A general survey of air power designed to provide the student with an understanding of the elements of air power, basic aeronautical science, and the organization and operation of the military arm of the Federal Government.

101. Elements and Potentials of Air Power (1). Lec. 2, Drill 2.

A general survey of air power designed to provide the student with an understanding of the elements and potentials of air power to include: fundamentals of air power; military air power of the world; military research and development; and air vehicle industries, airlines, and airways.

Leadership Laboratory

102. Air Vehicles and Principles of Flight (1). Lec. 2, Drill 2.

A general survey of aeronautical science to include: general aviation; elements of an aircraft; aerodynamics; guidance, control, and navigation; and propulsion systems.

Leadership Laboratory

103. Military Instruments of National Security and Professional Opportunities in the United States Air Force (1). Lec. 2, Drill 2.

A general survey of space flight, military policy, Department of Defense, and professional opportunities in the United States Air Force.

Leadership Laboratory

Second Year (Sophomore)

Air Science II. Foundations of Air Power.

A year-long survey of the development of aerial warfare with emphasis on principles of war, concepts of employment of forces, and changing weapon systems. Treatment of aerial warfare covers targets, weapon systems, delivering vehicles, bases and operations.

201. The Evolution of Aerial Warfare (1). Lec. 2, Drill 2.

A survey of the development of aerial warfare with emphasis on principles of war, concepts of employment of forces, and changing weapon systems.

Leadership Laboratory

202. Elements of Aerial Warfare (1). Lec. 2, Drill 2.

Treatment of aerial warfare is undertaken to include targets, weapons, delivery vehicles, bases, materiel, and personnel.

Leadership Laboratory

203. Employment of Air Force (Operation) and Operation In Space (1). Lec., Drill 2.

Treatment of aerial warfare to include combat and peace time operations and problems and possibilities of space operation.

Leadership Laboratory.

ADVANCED COURSE

Third Year (Junior)

Air Science III. Air Force Officer Development.

An introduction of Air Force ROTC cadets to principles of leadership as they apply to Air Force problems and tasks. Involves Air Force leadership doctrine, major sociopsychological principles of leadership, a consideration of the leader-follower relationships in an Air Force environment, and communication theory relevant to leadership. Leadership exercises concentrate on important behavior skills basic to leader performance with provisions for practice and development of basic behavior skills in a realistic problem situation.

301. **Problem Solving (3). Lec. 4, Drill 2.**
Problem solving techniques are taught as applied to Air Force staff and command problems. In addition the military justice system is taught.
Leadership Laboratory
302. **Communicating and Instructing in the Air Force (3). Lec. 4, Drill 2.**
Knowledge and skills required of a junior staff officer in the Air Force. This includes staff organization and functions, communicating and instructing.
Leadership Laboratory
303. **Leadership and Management (3). Lec. 4, Drill 2.**
Problems in leadership and management. Application of the principles and theories of problem solving and leadership to simulated and real Air Force problems are treated.
Leadership Laboratory

Fourth Year (Senior)

401. **Weather and Navigation (3). Lec. 4, Drill 2.**
Leadership Laboratory
402. **International Relations (3). Lec. 4, Drill 2.**
Leadership Laboratory
403. **Military Aspects of World Political Geography (3). Lec. 4, Drill 2.**
Briefing For Commissioned Service
Leadership Laboratory

Animal Husbandry and Nutrition (AH)

Professors Warren, Anthony, Grimes, and Salmon
Associate Professors Squiers, Turney, Patterson, Tucker, and Wiggins
Assistant Professor Farish
Instructor Gray

The work in this department deals with principles and practices of breeding, feeding, management, judging and marketing of livestock. The courses are planned to meet the needs of students who expect to become livestock farmers and farm managers, county agents, teachers of vocational agriculture, college teachers, research workers, livestock extension specialists, or employees in related commercial industries. Graduate curricula leading to the M.S. and Ph.D. degrees are offered especially for students who want to prepare for research work or college teaching.

200. **Introductory Animal Husbandry (5). Lec. 4, Lab. 2. All quarters.**
A basic course designed to orient the student and provide some understanding of the scope and importance of the field. The importance of livestock to agriculture and to the nutrition of people. The role of nutrition, breeding, selection and management in livestock production.
204. **Animal Nutrition (5). All quarters. Pr., CH 104.**
Principles of animal nutrition and the nutritional requirements of farm animals.
301. **Livestock Judging (3). Lec. 1, Lab. 4. Winter, Spring. Pr., AH 200.**
Theory and practice in the selection of beef cattle, swine, sheep, and horses.
302. **Feeds and Feeding (3). Fall, Winter, Spring. Pr., AH 204.**
Principles and practices of balancing and compounding of rations for beef cattle, sheep, and swine.
303. **Livestock Production (5). Lec. 4, Lab. 2. Pr., AH 204.**
Efficient practices for selection and management of beef cattle, sheep, and swine. For Agricultural Education students and other students whose curricula do not include AH 401 and AH 402. Ten or more hours of credit in AH 401, AH 402, or AH 405 excludes credit for AH 303.
401. **Swine Production (5). Lec. 4, Lab. 2. All quarters. Pr., AH 200, AH 204, junior standing.**
The practical problems involved in the breeding, feeding, and management of swine for economic production.
402. **Beef Cattle Production (5). Lec. 4, Lab. 2. Fall, Winter, Spring. Pr., AH 200, AH 204, and junior standing.**
The practical phases of breeding, feeding, and management of beef cattle for economic production.
403. **Animal Breeding (5). Winter, Spring. Pr., ZY 400 and junior standing.**
The application of genetic principles to the breeding of cattle, sheep, and swine. Studies of different systems of breeding and selection and their related efficiencies for livestock improvement.

404. **Market Classes and Grades of Livestock (3).** Lec. 2, Lab. 2. Fall, Spring. Pr., AH 200.
Grading, classing, and marketing livestock.
405. **Sheep Production (5).** Lec. 4, Lab. 2. Fall. Pr., AH 200, AH 204, and junior standing.
Types and breeds of sheep; buildings and equipment; types of sheep raising and flock management; nutritional requirements and feeding; sheep breeding, selection, and culling; performance testing; wool grading and marketing; lamb grading and marketing; common diseases and parasites and their control.
406. **Reproduction in Farm Animals (5).** Lec. 4, Lab. 2. Spring. Pr., junior standing.
Anatomy and physiology of the male and female reproductive tract; hormones governing reproduction; estrus and estrus cycle; ovulation, mating, gestation; parturition; lactation; sperm physiology; collection, storage and dilution of semen; artificial insemination; factors affecting fertility; causes of sterility in males and females, pregnancy tests.
407. **Advanced Livestock Judging (3).** Lec. 1, Lab. 4. Fall. Pr., AH 301 and approval of instructor.
An advanced course in the selection and grading of livestock.
408. **Applied Animal Nutrition (5).** Pr., AH 302 and Senior standing.
An advanced study of the principles of animal nutrition and their application to the production of farm animals, including the study of physiology of nutrition, metabolism of nutrients and recent nutritional developments.
411. **Undergraduate Seminar (1).** Pr., senior standing.
Lectures, discussions and literature reviews by staff, students and guest lecturers.
450. **Advanced Animal Nutrition and Livestock Feeding (3).** Lec. 4. Pr., graduate standing.
Principles of nutrition, nutritional requirements, compounding of rations, role of additives in livestock feeds and study of newer research findings.
451. **Breeding and Genetic Improvement of Farm Animals (3).** Lec. 4. Pr., graduate standing.
A study of basic genetic principles and their application to the breeding of farm animals. Systems of breeding and selection.

GRADUATE COURSES

(Graduate Standing Required)

603. **Nutrition Methods (5).**
Nutrition methodology including chemical, photometric, biological, and microbiological procedures used in nutrition investigations.
604. **Proteins, Amino Acids and Related Nitrogenous Compounds in Animal Nutrition (5).** Pr., CH 208 or equivalent.
Studies of the nutritional importance of these substances and their relation to growth, reproduction and health of animals.
605. **Carbohydrates and Fats and Energy Metabolism in Animal Nutrition (5).** Pr., CH 208 or equivalent.
Studies of the contribution of these factors as cell constituents and as sources of fuel in animal metabolism.
607. **Comparative Animal Nutrition (5).** Pr., AH 408.
Advanced studies of the comparative nutritional requirements in beef cattle, sheep, hogs and laboratory animals.
608. **Advanced Reproduction in Farm Animals (5).** Pr., AH 406, ZY 424.
Physiology and endocrinology of reproduction.
609. **Advanced Beef Cattle Production (5).**
Advanced studies relating to the production of beef cattle.
610. **Advanced Swine Production (5).**
Advanced studies of swine production and its place in Alabama agriculture.
611. **Seminar.** Credit to be arranged.
612. **Genetics of Populations (5).** Pr., AH 403.
Genetic composition of populations and factors affecting rates of change and conditions of equilibrium.
613. **Vitamins in Animal Nutrition (5).** Lec. 4, Lab. 2. Pr., CH 208.
Studies of the specific functions of the vitamins, unidentified growth factors and feed additives in animal nutrition.
614. **Minerals in Animal Nutrition (3).** Lec. 2, Lab. 2. Pr., CH 208.
Studies of the specific functions of the minerals in animal nutrition; mineral metabolism and mineral deficiency diseases.

615. **Nutritional Interrelations (5).** Pr., CH 420.
Specific metabolic relationships among vitamins, amino acids, fats, carbohydrates and minerals and the effect of nutritional antagonists.
616. **Enzymes and Hormones in Nutrition, Growth and Reproduction (5).** Pr., CH 420, ZY 628.
The influence of nutrition on concentration of enzymes in animal tissues. Vitamins and proteins as structural entities in enzymes. The interdependence of nutrition and the endocrines, particularly the thyroid, pancreas, pituitary, adrenals, testes and ovaries. The chemistry and function of hormones specifically related to growth and reproduction in the mammalian and avian species.
618. **Current Problems and Practices in Livestock Farming (5).** Summer.
Intensive studies of new research findings and their application to livestock production on Alabama farms. Primarily for Vocational Agriculture Teachers and County Extension Workers.
619. **Experimental Methods (5).** Pr., Satisfactory courses in statistics.
Research methods in the animal sciences including experimental techniques, interpretation of research data and preparation of publications.
620. **Nutritional Pathology I (5).** Winter Quarter by arrangement. Pr., VM 418 and satisfactory courses in biochemistry.
A comprehensive study of gross and microscopic pathology of nutritional diseases of experimental and domestic animals.
621. **Nutritional Pathology II (5).** Spring Quarter by arrangement. Pr., AH 620.
Evaluation and application of chemical, histochemical and cytochemical methods in localization of enzymes, nucleic acids, amino acids and other cellular constituents in tissues of normal animals and those with nutritional imbalances.
690. **Special Problems (1-5 hrs. credit—to be arranged).** Conferences, problems, assigned reading and reports in one or more of the following major fields: (a) nutrition, (b) animal breeding, (c) physiology of reproduction, and (d) production.
699. **Research and Thesis. Credit to be arranged.**
Research and thesis may be on technical laboratory problems or on problems directly related to beef cattle, sheep, or swine.
799. **Doctoral Research and Dissertation. Credit to be arranged.**

Architecture (AR)

*Head Professor Kelley
Professor Burkhardt*

*Associate Professors Cobb, Layman, Prestridge, and Wells
Assistant Professors Anderson, Brisson, Knowles, and Thomasson
Instructors H. Brisson*, E. Orisini*, and Nicholas Orsini*

- 101-2-3. **Basic Design (6-6-6).** Lec. 1-1-1, Lab. 15-15-15.
Correlated study of the fundamental relationships basic to all design problems—9 hours per week in design laboratory. Study and practice in freehand representation with various media—6 hours per week in the art studio. One hour per week lecture and discussion. Required for all first year students in AR and ID.
- 201-2-3. **Architectural Design (6-6-6).** Lec. 1-1-1, Lab. 15-15-15. Pr., AR 103.
Principles of spatial composition and structural organization; approaches to architectural design by the analysis of design determinants—9 hours per week in design laboratory. Visual fundamentals; creative drawing in various media—6 hours per week in the art studio. One hour per week of discussions and laboratory criticisms.
- 205-6-7. **Interior Design (6-6-6).** Lec. 1-1-1, Lab. 15-15-15. Pr., AR 103.
Principles of spatial composition and structural organization; approaches to a design by the analysis of design determinants; solution of simple design projects, furnishings and color. Visual fundamentals; creative drawing in various media. Discussions, models, drawings, laboratory criticisms and lectures.
- 215-16. **Elements of Interior Design (2-2).** Lec. 2-2. Pr., AR 103.
An introductory survey of the profession of interior design including professional procedures, relationships, ethics; correlation with architecture and other arts. Lectures, readings, discussions and research.

* Temporary.

233. Materials and Construction (5). Lec. 5.

Physical and structural properties of natural and synthetic building materials; analysis of their limitations and combinations in the construction of buildings; systems of construction. Lectures, readings, research and reports.

301-2-3. Architectural Design (5-5-5). Lab. 15-15-15. Pr., AR 203. Coreq., BT 220. Admission only upon recommendation of the Committee on Design.

Analysis and solution of buildings of moderate complexity, with emphasis on domestic, civic, and recreational problems; increased attention to construction and finish details. Research, discussions drawings, models.

305-6-7. Interior Design (5-5-5). Lab. 15-15-15. Pr., AR 207.

Analysis and solution of interiors of moderate complexity, with emphasis on domestic and commercial problems. Research, discussion, drawings, models.

360. Appreciation of Architecture (3). General elective.

A survey of architectural development with particular attention to American and contemporary examples. Illustrated lectures, readings.

361-2-3. History and Theory of Architecture (3-3-3). Pr., AR 203, BT 223.

An analysis of cultural institutions of the past and the study of the principles of planning and architectural composition, town planning, and landscape architecture as resulting from these forces and structural knowledge of the time. Study of the Ancient, Medieval, and Oriental cultures. Illustrated lectures, readings, drawings, and reports.

366. Period Interiors (2). Lec. 2.

A survey of the development of interior spaces, furniture, fabrics and accessories from the Renaissance to 1900. Illustrated lectures, readings, reports.

367. Contemporary Interiors (2). Lec. 2. Pr., AR 366.

A survey of the fundamental aspects of interior design, spatial order and characteristics, furniture and fabric design, from 1900 to date. Illustrated lectures, readings, reports.

374. Planning (2). Lab. 6. Coreq., EC 206 or SY 311.

Introduction to principles of city and regional planning. Consideration of the influences which shape urban development.

375. Planning (5). Lec. 3, Lab. 6. Pr., AR 374.

Lectures on the historical development of planning and urban design. Research in regional and local effects of planning. Practical problems in urban design, group design, systems of communication, urban patterns and controls.

390. Field Project (2). Required of students in Interior Design for admission to AR 407.

Summer experience (2 months minimum) with an interior design practitioner or commercial interior design department. The project is subject to approval by the Committee on Professional Practice.

401-2-3. Architectural Design (5-5-5). Lab. 15-15-15. Pr., BT 223, 312, AR 303. Coreq., BT 313. Admission only upon recommendation of the Committee on Design.

Analysis and solution of buildings of advanced complexity, with emphasis on school, social, transportation, hospital, commemorative, and decorative types. Increased attention to the relation between space organization and the structural system. Research, discussions, drawings, models.

405. Interior Design (5). Lab. 15. Pr., AR 307.

Analysis and solution of interiors of advanced complexity, with emphasis on institutional and public problems. Research, discussions, drawings, models.

406. Interior Design (5). Lab. 15. Pr., AR 405, Coreq. AR 342.

Analysis and solution of interior problems for first half of quarter; second half to be devoted to preparation of program and preliminary scheme for Terminal Problem subject to approval of Committee on Design, research, discussions, drawings, models.

407. Interior Design (5). Lab. 15. Pr., AD 406, Coreq. AR 432, AR 435.

The development of a major interior design under direction of the Committee on Design, with oral presentation for jury consideration. Drawings, models, details and written explanation.

423. Professional Practice (2). Lab. 6.

Emphasis on site engineering. Mathematics of surveying in relation to interpretation of geographic and physical features; grading, drainage, and codes. Lectures, readings, reports.

432. Materials and Finishes (2). Lab. 6. Coreq. AR 407.

Detailed determination of materials, finishes, costs as related to terminal problem accomplished under AR 407.

- 435. Methods of Interior Design (5). Lab. 15. Coreq. AR 407.**
Detailed design of furniture and/or furnishings included in terminal problem (AR 407), together with fabrication of at least one item of furniture or furnishings at scale to be determined by staff.
- 441-42. Professional Practice (2-2). Lab. 6-6.**
Office procedure and methods for interior designers; the technique and execution of working drawings for buildings, cabinetry and interior details; specifications. Discussions, drawings, inspections, reports.
- 461-2-3. History and Theory of Architecture IV-V-VI (3-3-3). Pr., AR 363.**
Continuation of AR 363. Study of Renaissance, Baroque, Early American, and Modern cultures. Illustrated lectures, readings, drawings, and reports.
- 471. Town Planning (5). Pr., 4th year standing.**
Land uses; use standards and controls; communication systems; growth, health, and decay of urban communities; remedial actions. Illustrated lectures, readings, reports.
- 490. Field Project (2). For students of Architecture.**
Study of the correlation and interpretation of working drawings and specifications on an architectural project under construction. Field work and reports will be approved by the Committee on Professional Practice. (To be completed as prerequisite to AR 502.)
- 501. Architectural Design (5). Lab. 15. Pr., AR 403. Admission only upon recommendation of the Committee on Design.**
Analysis and design of buildings of advanced complexity, with emphasis on multi-story commercial and institutional projects; group planning and advanced site study. Research, reports, discussions, drawings, models. A scheme for a building executed as a minor problem in this course will be fully developed in AR 502.
- 502. Architectural Design (5). Lab. 15. Pr., AR 490, AR 501, AR 521, BT 541, BT 413. Coreq. AR 522 and AR 532.**
The coordinated design of a major architectural project with full presentation. This course is designed to be correlated with work in AR 522 and AR 532, under the direction of the Committee on Design.
- 503. Architectural Design (7). Lab. 21. Pr., AR 502, AR 512.**
The development of a major design problem under direction of the Committee on Design. Drawings, models, details, and written explanations, oral presentation for jury consideration.
- 512. Design Research (2). Lab. 6. Pr., AR 490, AR 501. Coreq., AR 502.**
The selection and comprehensive programming of a terminal problem in architecture to be executed in AR 503.
- 521-2. Professional Practice (5-5). Lec. 3, Lab. 6. Coreq. to AR 522; AR 502, AR 532.**
Study of procedures in architectural practice; construction methods, estimation of quantities and costs; preparation of specifications and working drawings. Office organization; legal requirements; professional organizations and relations; civic responsibility.
- 532. Materials and Finishes (2). Lab. 6. Coreq., AR 502, AR 522.**
Analysis and assembly of materials and finishes used in the building designed in AR 502. Lecture, research, and reports.
- 558. Seminar in Contemporary Concepts (5). Pr., AR 463.**
A study of current achievements in world architecture with emphasis on broad movements and emerging patterns. Research, directed reading, reports, and discussion.
- 559. Seminar in Historical Problems (5). Pr., AR 463.**
Open to students who have shown ability, initiative, and industry in developing individual projects. Research, reports, and drawings under supervision on approved topics.
- 560. The Architect and Society (2). Pr., 4th year standing.**
A study of the social, economic, and political factors which have influenced the contemporary expression of architectural design and practice. Analysis of great works and philosophies which led the way to new approaches in design. Appreciation of esthetics and function as applied to form. Lectures, outside reading and reports.
- 561. Seminar in Urban Design (2). Pr., 4th year standing.**
Directed reading and discussion of contemporary developments in urban planning concepts and solutions. Reports and drawings.
- 571. Honors Program. Credit to be arranged up to 5 hrs. Pr., 4th year standing.**
Admission only by the Committee on Honors Program. Development of an area of concentration through independent study. Scope of work and its evaluation to be determined by the Committee. May be taken more than one quarter.

Art (AT)*Head Professor Applebee**Professor Sykes**Associate Professors Abney, Kettunen, and Williams**Assistant Professor Lapsley***Instructors Cheney, Hiers*, McIvor, and Schrader*

101. **Freehand Drawing (5).** Lab. 15. Elective for entire college.
Basic principles of graphic representation; development of sensitivity in seeing essentials, and of the power to clarify and reorganize line, space, and form; the use of pencil, pen and ink, and charcoal.
103. **Creative Drawing (5).** Lec. 3, Lab. 6. Pr., AT 101.
Problems stressing expressive drawing and organization.
104. **Basic Figure Drawing (5).** Lab. 15. Pr., AT 101.
Drawing in various media from the model to develop feeling for form and movement.
112. **Perspective (5).** Lec. 2, Lab. 8.
Theory of linear perspective; plan and measuring-point method; shadows in natural and artificial light; reflections. Problems.
141. **Art Structure (5).** Lec. 2, Lab. 8. Elective for entire college.
Art understanding through experimentation, readings, and discussions combining theory with applications.
201. **Life Drawing I (5).** Lec. 2, Lab. 8. Pr., AT 104.
Drawing and construction of the human figure from the model.
216. **Materials and processes (5).** Lec. 5. Pr., sophomore standing.
The properties and use of materials in manufacture and a study of the various machine and tool processes used by industry.
217. **Delineation (5).** Lab. 15. Pr., AT 223.
The development of facility and understanding in the drawing of three dimensional forms. Emphasis on the function and the techniques of presentation.
221. **Modeling (5).** Lab. 15.
Creative expression in three dimensions; abstractions, portraits, figure pieces in clay and other media.
223. **Water Color (5).** Lab. 15. Pr., AT 101 or 141.
Study of the medium and of picture structure; exercises in still life, figure, and landscape painting.
241. **General Design (5).** Lec. 1, Lab. 12. Pr., AT 101 and 141.
Practice in the application of the principles of design; problems in blockprinting, stenciling, batik, etc.
271. **Introduction to Industrial Design (5).** Lec. 2, Lab. 8. Pr., AT 101 and 141.
Survey of the field of Industrial Design. Use of drafting instruments. Lectures, readings, drawings. Basic layout problems.
- 302-3-4. **Life Drawing II-III-IV (5-5-5).** Lab. 15-15-15. Pr., AT 201.
Drawing from the model in various media, with emphasis on figure construction, interpretation, and expression.
311. **Lettering (5).** Lec. 2, Lab. 9. Pr., AT 101 or 141.
Characteristic styles and letter forms; spacing; expressive use; brush and pen lettering. Exercises in creative application.
312. **Graphic Processes (5).** Pr., junior standing.
A study of the theory and applications of photo-mechanical reproduction, printing processes, typography and related subjects.
313. **Advertising Layout (5).** Pr., advanced sophomore standing and AT 311.
Basic elements of advertising and editorial layout. Fundamentals of typography, lettering for layout, design in layout, applied problems.
317. **Packaging (5).** Pr., junior standing and AT 311.
The study of all types of package design and the materials used. New applications to every day products.
321. **Advanced Modeling (5).** Lab. 15. Pr., AT 221.
Development of technical skill and of feeling for the expressive organization of form and mass.
323. **Advanced Water Color (5).** Lab. 15. Pr., AT 223.
Development of technical and compositional skills required for paintings of professional calibre.

* Temporary.

325. **Oil Painting (5).** Lab. 15. Pr., AT 103 and 141.
Still-life, abstract, landscape, and small figure compositions.
326. **Advanced Oil Painting (5).** Lab. 15. Pr., AT 325.
Large compositions with individual choice of subject matter.
331. **History of Painting and Sculpture (5).** Pr., sophomore standing.
A description and analysis of the development of painting and sculpture from prehistoric through modern times as related to the cultural setting. Illustrated lectures, readings, drawings, and reports.
332. **American Painting and Sculpture (3).** General elective.
A survey of American art and artists from the Colonial period to the present day. Illustrated lectures, readings.
- 336-7. **Advertising Design I-II (5-5).** Lab. 15-15. Pr., AT 241.
Analysis and solution of problems in the various phases of advertising and commercial art; layouts and renderings.
342. **Elementary School Art (5).** Lec. 2, Lab. 8.
Materials and methods for the development of art activities in elementary schools; exercises in expressive drawing, painting, design, and simple lettering.
355. **Illustration I (5).** Lab. 15. Pr., AT 302.
Basic problems in illustration emphasizing both esthetic and functional aspects. Drawings and designs for line and halftone reproduction.
356. **Illustration II (5).** Lab. 15. Pr., AT 355.
Printmaking and applications to illustration. Research on pertinent art movements.
361. **Fashion I (5).** Lab. 15. Pr., AT 104, 201 and 241.
Drawing the fashion figure, employing basic types of rendering used in fashion advertising.
362. **Fashion II (5).** Lab. 15. Pr., AT 361.
Problems in advanced rendering for fashion advertising: figured and textured fabrics, furs, and accessories.
371. **Industrial Design I (5).** Lab. 15. Pr., AT 241.
Three dimensional organization, familiarization with the qualities of materials and their creative use and combination. Introduction to modelmaking.
372. **Industrial Design II (5).** Lab. 15. Pr., AT 371.
Graphic expression of three-dimensional forms using various mediums available to the designer. Form studies of mass relationships.
373. **Industrial Design III (5).** Lab. 15. Pr., AT 372.
Design analysis of forms and development of more complex arrangements of simple forms.
- 425-6. **Figure Painting I-II (5-5).** Lab. 15-15. Pr., junior standing, AT 302 and 325.
Painting from the model; head and figure; portraits; emphasis on expressive style.
431. **Contemporary Art (3).** General elective.
A survey of modern painting, sculpture, and industrial design. Illustrated lectures, readings.
- 432-3. **Seminar in Art Problems (5-5).** Pr., senior standing.
Open to students who have shown ability, initiative, and industry in carrying out individual projects. Research reports, and drawings under supervision on approved topics.
434. **Seminar in Art History Problems (5).** Pr., senior standing.
Open to students who have shown ability, initiative, and industry in carrying out individual projects. Research, reports, and drawings under supervision on approved historical topics.
- 435-6. **Advertising Design III-IV (5-5).** Lab. 15-15. Pr., AT 337.
Problems requiring increasing analytical study, leading to work of professional calibre.
442. **Art in Education (5).** Lec. 3, Lab. 6. Pr., junior standing.
Lectures, reading and research concerning principles and objectives of pertinent phases of Art for the purpose of understanding their significance in teaching at all levels. Laboratory experimentation in basic procedures of painting, graphic arts and sculpture as a means of relating the art experience to educational practice. Emphasis is placed upon creativity rather than technical skill.
- 451-2-3. **Pictorial Design I-II-III (5-5-5).** Lab. 15-15-15. Pr., junior standing and AT 326.
Problems in picture design for students of painting.
- 457-8. **Illustration III-IV (5-5).** Lab. 15-15. Pr., AT 356.
Sustained illustrative projects employing a variety of concepts, media and applications. Research on pertinent art movements.
463. **Fashion III (5).** Lab. 15. Pr., AT 362.
Design of clothing in all categories; historic adaptations; wardrobe color coordination; personality styling.

- 464. Fashion IV (5). Lab. 15. Pr., AT 463.**
Advanced problems in illustration; advertising layout for newspaper, magazine and pattern book.
- 471. Industrial Design IV (5). Lab. 15. Pr., AT 373.**
Product development and styling. Analysis of function, safety, consumer opinion and acceptance. Mechanical studies and mockup models.
- 472. Industrial Design V (5). Lab. 15. Pr., AT 471.**
Advanced product development. Structural analysis and working model studies. Presentation procedures. Display design.
- 495. Thesis (5). Lab. 15. Admission only upon recommendation of the Faculty Thesis Committee.**
The analysis and solution of an advanced problem in creative design in the student's special field. The specific problem and the program of research and work will be proposed by the student for the approval of the department staff. In addition to the finished work of art or presentation drawings, a written report must be submitted stating the assumptions, results of research, methods and justification of the final solution. The whole thesis will be defended orally before the staff and guest specialists. Theses, including all drawings, paintings and models become the property of the Department of Art.

GRADUATE COURSES

- 605-6-7-8. Graduate Design (5-5-5-5). Lab. 15-15-15-15.** Sykes and Lowe
Advanced programs of creative design in the student's elected field.
- 641-2-3. Graduate Research in Art Problems I-II-III (5-5-5).** Sykes and Staff
Research on approved topics in the student's special field. Conferences and reports.
- 699. Research and Thesis (Credit to be arranged). All quarters. Pr., AT 495 or equivalent.** Applebee and Staff
A major art problem consisting of a sustained single project or a logical sequence of shorter projects. The candidate will be required to conceive and execute a work or works exhibiting pronounced creative ability and technical proficiency. Upon recommendation of the major professor, a written essay may be required to accompany the project. All drawings, paintings, and models connected with this work will be retained by the Department of Art.

Botany and Plant Pathology (BY)

Professors Lyle, Cairns, D. Davis, and Seal
Associate Professors Curl, Diener, and Drake
Assistant Professors N. Davis, Goslin, and Marshall
Instructor Jones

The science of Botany deals not only with the well-known seed plants, such as the pine trees and the cotton plant, but also with such less-known plants as the ferns, the mosses, the liverworts, the lichens, the disease-causing fungi, and the seaweeds, plant forms that the average person knows little or nothing about, yet which are of tremendous everyday importance. The fundamental place of plants in the economy of daily life, as the basic source of the world's food and energy, warrants a careful and detailed study of their forms, their structures, their process, their means of growth and reproduction, and many other phases of their existence. Only by such studies may we discover the maximum resources of plants.

The required courses in Botany are designed to give the student knowledge of the fundamental nature of plants as a phase of general culture, and as a basis for further studies in the plant sciences.

The elective courses offered are intended to meet the needs of three different groups of students, namely: 1) those who intend to engage in farming or in farm demonstration work; 2) those who plan to teach in secondary schools; 3) those who desire a thorough technical training in Botany as preparation for plant disease inspection, investigational work in experiment stations or the United States Department of Agriculture, or who desire to obtain college training positions.

Graduate curricula leading to the M.S. and Ph.D. degrees are offered especially for students who want to prepare for college teaching or research work.

- 201. General Botany (5). Lec. Dem. 5. All quarters.** Staff
An introduction to botany dealing with the development, structure, and function of plants. Precedes all advanced courses in botany.
- 202. General Botany (5). Lec. Dem. 5. All quarters. Pr., BY 201.** Seal
The principal natural groups of plants embracing their particular structure, habits, reproduction, and relationships.

205. **Pharmaceutical Botany (5).** Lec. Dem. 5. Winter, Spring. Seal
Study of the various groups of plants, the macroscopic and microscopic characteristics of the various plant organs. Emphasis placed on drug yielding plants. Restricted to students in Pharmacy.
306. **Elementary Plant Physiology (5).** Lec. 3, Lab 4. Pr., BY 201; CH 103-104. Goslin
Practical aspects of fundamental life processes of plants involving physiological, structural, and environmental relationships.
308. **Plants and Man (3).** Lec. 3. Summer. General elective. Staff
A brief introduction to the botanical characteristics of most categories of plants including their kinship, origin, past and present distribution, and various ways utilized, as timbers, fruits and other foods, fibers, forage, ornamentals, drugs, etc. Local field trips will be made.
309. **Diseases of Plants (5).** Lec. 3, Lab. 4. Winter, Spring. Pr., BY 201-2. Marshall
A fundamental course dealing with the nature, cause, and control of plant diseases illustrated by studies of the more common diseases of cultivated crops.
310. **Forest Pathology (5).** Lec. 3, Lab. 4. Winter, Spring. Pr., BY 201-2. Marshall
A study of diseases of trees in forests, parks, streets, and nurseries, as well as the more important fungi causing rots of timber and its products.
401. **Principles of Biometry (5).** Lec. 4, Lab. 2. Fall. Pr., MH 111 or 107 and junior standing. Drake
Designed to enable the professional agricultural worker to read reports of experiments with more discernment and as a basic course in the mathematical treatment of data for the research worker. The reduction and simplification of data and their attendant variation. The calculation, application, and limitations of tests of reliability. Especial emphasis on methods of treatment comparisons.
406. **Systematic Botany (5).** Lec. 2, Lab. 6. Spring. Pr., BY 201-2 and junior standing. D. Davis
The identification and classification of flowering plants. Field trips will be made.
410. **Aquatic Plants (5).** Lec. 2, Lab. 6. Summer. Pr., BY 201-2 and junior standing. Staff
The study of the chief aquatic plants found in the fresh waters of Alabama, with emphasis on their economic value in wildlife management and fish culture.
412. **Principles and Methods in Plant Pathology (5).** Lec. 3, Lab. 4. Winter. Pr., BY 309 or 310 and junior standing. Marshall
Emphasis will be placed on the principles governing the development of plant diseases and their control. The laboratory will consist of a study of the techniques used in isolation, culture, and inoculation of plant pathogens.
413. **General Plant Ecology (5).** Lec. 3, Lab. 4. Fall. Pr., BY 306 and junior standing. D. Davis
Distribution and association of plants in relation to soils, climate, and other major factors of the environment. Field trips will be made.
415. **Developmental Anatomy of Crop Plants (5).** Lec. 3, Lab. 4. Spring. Pr., BY 201, CH 104, and junior standing. Staff
A study of the comparative anatomy of vascular plants with emphasis on relationships, evolution, and structure of economically important species.
416. **Plant Microtechnique (5).** Lec. 2, Lab. 6. Winter. Pr., BY 201, 306 or 415 and junior standing. Staff
Principles and methods of fixing, imbedding, sectioning, staining, and mounting the various plant organs and organisms for permanent or semipermanent microscope slide preparations.
419. **Principles in Plant Disease Control (3).** Lec.-Dem. 4. All quarters. Pr., BY 309 and graduate standing. Diener
Designed to acquaint the student with such principles of plant disease control as protection, exclusion, eradication, and resistance. The control of important plant pathogens will be considered by each method. Emphasis will be placed on chemical control with antibiotics, fumigants, and fungicides.
420. **Weed Identification and Control (5).** Lec. 3, Lab. 4. Spring. Pr., BY 201 and junior standing. D. Davis
Recognition of the more noxious weeds, their ecology, habit of growth, dissemination and the evaluation of the various methods of control.
421. **Weeds (3).** Lec. 3, Lab. 4. Summer and Fall. Pr., BY 201 and graduate standing. D. Davis
The identification and control of Alabama weeds. (Credit for both BY 420 and BY 421 may not be used to meet requirements for the Master's degree.)

430. **Nematode Diseases of Plants (3).** Lec. 3. Winter. Pr., BY 201-2, ZY 101 and junior standing. Cairns
Designed to acquaint students in agricultural sciences with the role of nematodes as plant parasites; study of representative plant diseases caused by nematodes; principles and practices of control.
435. **Plant Biology I (5).** Lec. Dem. 5. Summer. Pr., Teaching experience and junior standing. Marshall, Seal
Designed to provide the secondary school teacher with the basic principles of plant science and emphasizing applications of plants to human affairs. Restricted to students in Education except by special permission.
436. **Plant Biology II (5).** Lec. Dem. 5. Summer. Pr., BY 435 and junior standing. Seal
Designed to provide the secondary school teacher with practical experience in laboratory and field identification of common plants and their habitats, emphasizing the collection, preservation and preparation of specimens for classroom use. Restricted to students in Education except by special permission.

GRADUATES ONLY, MAJOR OR MINOR

601. **Advanced Biometry (5).** Lec. 5. Winter. Pr., BY 401. Drake
A continuation of course BY 401 to extend the general methods of handling data to those more refined and critical. Special emphasis to be placed on methods of planning experiments to yield maximum information.
602. **Design and Analysis of Experiments (5).** Spring. Pr., BY 601. Drake
Principles and methods of designing efficient experiments; methods of analysis; problems in interpretation of results; methods of increasing precision; size of experiments; factorial experiments, complete and incomplete block designs, combining experiments.
605. **Methods in Plant Physiology (5).** Lec. 1, Lab. 8. Winter. Pr., BY 306, CH 206. N. Davis
An application of quantitative methods of analyses to the various organic constituents of plants as applied to plant science research.
606. **Cell Physiology (5).** Lec. 3, Lab. 4. Winter. Pr., BY 306, and AY 304 or 305. N. Davis
The plant cell in relation to water and mineral absorption. Transpiration, absorption, and translocation of water and minerals by higher plants.
607. **Plant Growth (5).** Lec. 3, Lab. 4. Spring. Pr., BY 306, CH 104. N. Davis
A study of the interactions of internal conditions and external factors which influence development in the vegetative and reproduction phases of growth in higher plants.
608. **Advanced Systematic Botany (5).** Lec. 2, Lab. 6. Spring. Pr., BY 406. D. Davis
Intensive study of special groups of plants.
609. **Mycology (5).** Lec. 3, Lab. 4. Pr., BY 201-2 and consent of instructor. N. Davis
A systematic survey of the fungi with emphasis on the relationships of fungi to the welfare of man.
610. **Algae (5).** Lec. 2, Lab. 6. Spring. Pr., BY 410. Staff
Detailed studies of the reproduction, distribution, and economic importance of fresh and salt water algal forms.
611. **Ecology of Soil Fungi (5).** Lec. 2, Lab. 6. Summer or Fall. Pr., BY 412, AY 304. Curl
Quantitative and qualitative consideration of the microbial population of the soil; associative and antagonistic effects of soil microorganisms; relationships between soil microbes and higher plants; and methodology for studying microbial relationships and their effects on plant pathogenic organisms.
612. **Physiology of Fungi (5).** Lec. 3, Lab. 4. Pr., BY 306, 412 and 609. N. Davis
A study of the chemical activities of fungi as related to their nutrition, growth, reproduction, and fermentive abilities. Emphasis will be on fungi important in agriculture, industry, and medicine.
613. **Experimental Plant Ecology (5).** Lec. 2, Lab. 6. Pr., BY 413. Summer. D. Davis
A field course covering the methods of obtaining quantitative data on the structure and composition of plant communities as well as the use of instruments for evaluating the environment.
614. **Seminar (1).** Fall, Winter, Spring. Staff
Study of the literature in Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Emphasis will be given to preparation, organization and presentation of material

by the students. This is a joint seminar among the departments of Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Required of all graduate students in these departments.

615. **Morphology of Crop Plants (5).** Lec. 3, Lab. 4. Summer. Pr., BY 306, BY 415 or 416. Staff
The basic principles of reproduction in angiosperms with particular emphasis on their relationships to crop production, plant breeding, and genetics.
616. **Plant Cytology (5).** Lec. 3, Lab. 4. Spring. Pr., BY 306, and BY 416 or ZY 308. Staff
A course dealing with plant (and to a lesser extent animal) chromosomes, their number, structure, evolution and methods of evolution. The effects of various environmental agents, chemical and physical, on chromosome structure and evolution.
618. **Diseases of Special Crops (5).** Lec. and Lab. 6. Summer or Fall. Pr., BY 201, BY 309, or 310, BY 412, and BY 430. Staff
The identification, epidemiology, etiology, and control of the major diseases on various kinds of economic plants, to be selected on the basis of current needs of the students. Subject matter to be presented by various specialists within the department.
620. **Chemical Weed Control (5).** Lec. 3, Lab. 4. Fall or Summer, Odd years. Pr., BY 306, BY 406 or 420. D. Davis
Application, mode of action, physiological relationships, recent advances, and special weed problems in crops.
625. **Special Problems. Credit to be arranged.** Staff
A. Cytology; B. Ecology; C. Morphology; D. Mycology; E. Nematology; F. Pathology; G. Physiology; H. Taxonomy; I. Chemical Weed Control.
630. **Advanced Phytonematology (5).** Lec. 3, Lab. 4. Fall. Pr., BY 430. Cairns
Detailed studies of the nematodes parasitic on plants; special emphasis will be given to host-parasite relationships and recent advances in phytonematology.
635. **Botany and Modern Living (5).** Lec.-Dem. 5. Summer. Pr., BY 435 and teaching experience. Marshall
Designed to provide the secondary school teacher with a better understanding of plants and plant products including algae as a potential source of food, antibiotics, cosmic significance of photosynthesis, and microorganisms in industry in the modern world.
640. **Departmental Forum (1).** Fall, Winter and Spring. Required of all majors, open to all minors. Lyle
Discussions concerning current topics in the various sciences and related fields.
650. **Nuclear Science in Agriculture (5).** Lec. 3, Lab. 6. Spring. Pr., Graduate standing with research experience. D. Davis
A study of the role of nuclear science in agricultural research with training in the use of radioisotopes and familiarization with the possibilities, limitations, and necessary safety precautions.
699. **Research and Thesis. Credit to be arranged. May be taken more than one quarter.** Staff
799. **Doctoral Research and Dissertation. Credit to be arranged.** Staff

Building Technology (BT)

Head Professor Orr

Professor Marty

Assistant Professors Darden and Dean

104. **Introduction to Building (5).** Lab. 15.
Survey of the Building Industry; building procedure; study of plans and details; use of drawing tools; elements of estimating. Lectures, readings, drawings.
220. **Mechanics of Structures (5).** Pr., PS 205, MH 202.
Principles of mechanics as applied to building construction; graphic statics; resolution of external forces; analysis of trusses; centroids; moments of inertia; friction. Lectures, demonstrations, problems.
222. **Building Construction I (5).**
Structural and finish materials and assembly systems used in non-fire-resistant buildings; construction details of foundations, walls, floors, roofs, stairs, partitions, windows: Lectures, reports, readings, drawings.

223. Building Construction II (5). Pr., BT 222.

Continuation of BT 222 dealing with fire-resistant buildings; exits; thermal and sound insulation; industrial construction; prefabrication; modular dimensioning; wide span structures; acoustics. Lectures, reports, readings, drawings.

311-2-3. Structures I-II-III (3-3-3). Pr., BT 220.

Study of statically determinate structures including beams, columns, trusses, struts and tension members. Shear and bending moments, torsion, slope and deflection. Problems are worked in wood, reinforced concrete, steel and other structural materials. Lectures, research and problems.

367-8-9. History of Building I-I-III (2-2-2).

An analysis of the development and use of construction methods and materials showing the effects of this development on building form from ancient to contemporary times. Illustrated lectures, readings, reports and drawings.

411-2-3. Structures IV-V-VI (3-3-3). Pr., BT 313.

Continuation of Structures I-II-III in the field of statically indeterminate structures. Consideration of lateral stability in buildings. Design of foundations. Lectures, research and problems.

421. Construction Problems I (5). Lab. 15.

Solution of practical problems of the type normally encountered in the erection of buildings. Layouts, design of formwork and scaffolding. Material storage and handling. Job organization. Demonstrations, research and drawings.

422. Construction Problems II (5). Lab. 15. Pr., BT 313 and 421.

Continuation of BT 421; solution of problems taken from working drawings, specifications, shop drawings and contract documents. Discussions, research, estimates, computations, drawings.

433. Construction Methods and Estimating (5). Pr., BT 223 and 313.

Material quantities; estimating; builder's organization and procedure; job records; builder's liability; labor relations; safety precautions. Preparation of quantity lists from working drawings; lectures; problems.

452-3. Building Equipment I-II (3-3). Lec. 2, Lab. 3. Each quarter. Pr., PS 206.

Description and analysis of heating, air conditioning, water supply, plumbing, electrical wiring, motors, elevators, and illumination as related to buildings. Lectures, demonstrations, readings, problems.

490. Building Construction Thesis (5). Lab. 15 or (7). Lab 21. Pr., BT 422, 433 and 4th year standing, third quarter. Admission only upon recommendation of the Faculty Thesis Committee.

The preparation of a detailed cost estimate and construction program of a building selected by the student with the approval of the department staff. Required: a report setting forth a description of the building and its site, a list of quantities of materials, a list of unit prices for materials and labor, detailed cost sheets; forms for presentation of bids, contract with owner, contract with subcontractors; a construction schedule; and an outline of construction methods required. The candidate will defend the thesis orally before the staff and guest specialists.

521-2-3. Advanced Structures I-II-III (5-5-5). I, Fall; II, Winter; III, Spring. Pr., BT 413.

Theory and practical design of complex and long span structures, both in steel and reinforced concrete. Multiple story buildings, towers, arches, vaults, domes, thin shell systems, foundations. Lectures, research and problems.

541. Building Equipment III (2). Lab. 6. Pr., BT 453.

A continuation of Building Equipment I and II in selected laboratory problems.

GRADUATE COURSES**605-6-7. Graduate Research in Building (5-5-5). All quarters.**

Independent investigation and reports on topics selected by the student with approval of the instructor. Staff

621-2-3. Graduate Construction Design (5-5-5). Lab. 15-15-15. All quarters. Pr., BT 523.

The analysis and solution of complex problems in construction design, with particular emphasis upon practical and economical application to a selected building. Conferences, working drawings, scale models. Staff

699. Research and Thesis. Credit to be arranged. May be taken more than one quarter.

The analysis and solution of an advanced problem in building. The choice, scope and program of study for the problem must be submitted by the candidate for approval of the department staff during the first week of the quarter. Staff

Chemical Engineering (CN)

Professors Basore and Wingard
*Associate Professors Moore, Vives, Yeh, and Findley**

201. **Chemical Engineering Fundamentals (2).** Lab. 6. Pr., MH 262, PS 201.
Definition and scope of chemical engineering, evaluation of engineering materials, process calculations, and experiments.
300. **Process Calculations (3).** Pr., CN 201.
This course is a continuation of CN 201. It includes problems relating to the thermophysics, thermochemistry, and more comprehensive problems in fuels, combustion, and chemical, metallurgical and petroleum processes.
321. **Chemical Process Industries (3).** Pr., CH 314.
Study of inorganic chemical manufacturing processes. Includes flow sheets, process variables, automatic instruments, application of physical chemistry, economics and costs.
322. **Organic Process Industries and Kinetics (3).** Pr., CH 305, CH 314.
Relates to the kinetics of reactions, optimum operating conditions, correlation of plant data, instrumentation, corrosion, applications of economics, and selection of process equipment.
324. **Fluid Mechanics (4).** Pr., MH 264, PS 203.
A study of fluid mechanics, including flow through porous media and fluidized beds.
326. **Heat Transfer (5).** Lec. 3, Lab. 6. Pr., PS 203, Coreq. CN 324.
A study of the principles of heat transfer, including radiation, conduction, and convection. Representative laboratory problems in fluids, heat transfer, and evaporation.
423. **Unit Operations (5).** Lec. 3, Lab. 6. Pr., CN 326.
Diffusion, psychrometry, drying and filtration, size reduction, and materials handling. Laboratory experiments relate to the above.
424. **Mass Transfer (5).** Lec. 3, Lab. 6. Pr., CN 326.
Distillation, absorption, and extraction. Laboratory experiments relate to the above.
426. **Engineering Metallurgy (5).** Lec. 4, Lab. 3. Pr., CH 314 and junior standing.
Physical metallurgy with special reference to the effect of mechanical work and heat treatment on the properties of ferrous metals and alloys, and non-ferrous metals and alloys. Titanium, Zirconium, Thorium, Tantalum, and Beryllium also are studied.
430. **Computer Principles (2).** Pr., MH 264, PS 302, CN 423.
Study of the basic principles of analog and digital computer theory, and applications to the chemical engineering.
432. **Instrumentation (4).** Lec. 2, Lab. 6. Pr., MH 264, PS 203.
Automatic feed back control, servomechanisms, instrumentation of typical equipment, laboratory work includes performance characteristics of typical instruments and remote-control.
437. **Process Engineering (4).** Lec. 2, Lab. 6. Pr., Junior standing and CN 322, CN 423, Coreq., CN 424.
Semi-independent work of individuals and small groups. The subject matter relates to the study of the scientific literature, laboratory operations designed to develop a satisfactory process, and pilot plant development and operation; including cost analyses, a market study, and the writing of reports. Principles of report writing are stressed.
440. **Nuclear Engineering (5).** Pr., Senior standing in engineering, B average except by special permission.
Includes units and nomenclature, the nuclear chain reactor, radiation shielding, nuclear properties of materials, instrumentation and control, remote handling, heat transfer with liquid metals, and radioactive waste disposal.
484. **Chemical Engineering Plant Design (4).** Lec. 2, Lab. 6. Pr., CN 437 and junior standing.
The major responsibility is placed upon individuals or small groups for the optimum design, choosing between alternates, selection of equipment, and the calculation of the required sizes, plant layout, cost analyses and the writing of reports. Comprehensive problems are assigned which usually include heat, materials and economic balances, unit operations and processes, kinetics, and thermodynamics. Some consideration also is given to statistics.
490. **Applied Thermodynamics (5).** Pr., CH 403.
Thermodynamics properties of fluids, the expansion and compression of fluids, the thermodynamics of solution, physical equilibrium and chemical equilibrium, and important applications to chemical engineering.

* Part-time Engineering Experiment Station.

COURSES PRIMARILY FOR GRADUATE STUDENTS

601. Fluid Flow and Heat Transfer (5). Fall. Pr., CN 423.
602. Diffusional Processes I (5). Winter. Pr., CN 424.
Evaporation, drying and distillation. Special emphasis on distillation.
603. Diffusional Processes II (5). Spring. Pr., CN 424.
Special emphasis on absorption and extraction.
604. Advanced Chemical Engineering Thermodynamics (5). Pr., CN 490.
Advanced problems in the application of thermodynamics to industrial processes. Special emphasis on physical equilibrium.
605. Kinetics (5). Pr., graduate standing.
Study of the rates of homogeneous, heterogeneous, and catalytic reactions and applications of the rates to the process industries.
609. Petroleum Refining Engineering (5). Pr., graduate standing.
Theoretical and practical aspects, including solvent extraction, catalytic cracking and synthesis of organic compounds from petroleum.
610. Advanced Physical Metallurgy (5). Lec. 4, Lab. 3. Pr., CN 426.
Heat treatment of ferrous and non-ferrous metals including microscopic studies. Recent developments also are included. This course is open by special permission to seniors who have credit for CN 426.
611. Advanced Kinetics and Principles of Reactor Design (5). Pr., CN 605.
699. Research and Thesis. Credit to be arranged.

Chemistry (CH)

Professors Capps, Kosolapoff, Land, Nichols, Price, Saunders, Schrader, and Stevens
Associate Professors Baker, Barksdale, Bunger, Melius, Ward, Ziegler, and Peterson

Each student registered in a chemistry course which has a laboratory in connection with it will have to purchase a punch card from the Cashier's Office before he will be assigned a desk.

- 103-4. General Chemistry (4-4). Each quarter. Corequisite for CH 103, MH 111 or MH 107. CH 103 for 104.
A comprehensive course in General Chemistry designed for students who will take additional courses in chemistry. Credit toward a degree subject to completion of the corresponding laboratory course.
- 103L-104L. General Chemistry Laboratory (1-1). Lab. 2.
These laboratory courses must be taken concurrently with the corresponding lecture course, except when repeated.
111. General Chemistry (5). Lec. 4, Lab. 3. Corequisite MH 111 or MH 107.
A course designed for students in the School of Chemistry.
112. General Chemistry (5). Lec. 4, Lab. 3. Pr., CH 111 or CH 103.
A continuation of CH 111.
113. General Chemistry (5). Lec. 4, Lab. 3. Pr., CH 104 or CH 112.
A continuation of CH 111 and CH 112.
203. Organic Chemistry (5). Pr., CH 104.
An abbreviated course in fundamentals of organic chemistry. Designed for students in Home Economics, and others.
204. Biochemistry (5). Lec. 4, Lab. 3. Winter quarter only. Pr., CH 203.
A brief course especially designed for students in Foods and Nutrition and Nursing Science.
205. Qualitative Analysis (5). Lec. 3, Lab. 6. Each quarter. Pr., CH 104 or CH 112.
A course in the theory and practice of qualitative analysis.
206. Quantitative Analysis (5). Lec. 3, Lab. 8. Each quarter. Pr., CH 205.
This course embraces work in both gravimetric and volumetric analysis, including the analysis of some of the more important ores and minerals.
207. Organic Chemistry (5). Lec. 4, Lab. 3. Each quarter. Pr., CH 104.
A study of the aliphatic hydrocarbons and their derivatives. The course, together with CH 208, is designed to meet the needs of students in Laboratory Technology, Pre-Medicine, Pre-Dentistry, and Pharmacy.
208. Organic Chemistry (5). Lec. 3, Lab. 6. Each quarter. Pr., CH 207.
A continuation of CH 207. The aromatic hydrocarbons and their derivatives are considered in some detail.
209. Advanced Quantitative Analysis (5). Lec. 3, Lab. 6. Pr., CH 206.

301. Biochemistry (5). Lec. 4, Lab. 3. Pr., CH 208.
A brief course especially designed for students in Pre-medicine and Pharmacy.
305. Organic Chemistry (5). Pr., CH 208.
313. Physical Chemistry (5). Lec. 4, Lab. 3. Pr., MH 263, CH 206 and PS 201.
The course embraces a discussion of the more important theories and laws of physical chemistry.
314. Physical Chemistry (5). Lec. 4, Lab. 3. Pr., CH 313.
A continuation of CH 313.
316. Physical Chemistry (5). Pr., MH 112, CH 205 and PS 205.
A one-quarter course for pre-medicine students.
341. Geology (5).
A course concerning dynamic geology, structural geology, geomorphology, and historical geology in the order named.
342. Geology (3). General elective.
A course in general geology similar to CH 341, but for 3 hours credit.
401. Chemistry for High School Science Teachers (5). Lec. 4, Lab. 3. Summer. Pr., Teaching experience.
402. Physical Chemistry (5). Lec. 4, Lab. 3. Pr., CH 314, and junior standing.
An extension of principles studied in CH 313-14 with special reference to electro-chemistry.
403. Chemical Thermodynamics I (5). Pr., CH 314, and junior standing.
A study of the basic laws governing changes in energy in gases, liquids and solids.
404. Organic Chemistry (5). Lec. 3, Lab. 6. Pr., CH 305, and junior standing.
A continuation of CH 305.
405. Organic Chemistry (5). Pr., CH 404, and junior standing.
A continuation of CH 404.
410. Intermediate Inorganic Chemistry I (5). Lec. 5. Pr., junior standing.
A study of atomic structures, valance bonding and periodic properties of the elements.
- 418-19-20. Biochemistry (5-5-5). Lec. 4, Lab. 4. Fall, Winter, Spring. Pr., CH 206, 208, and junior standing.
A course for majors in biochemistry and for students in Laboratory Technology. Particular emphasis will be placed on blood and urine analysis in the latter portion of the laboratory work.

ADVANCED COURSES

601. Selected Topics in Chemistry (5). Lec. 4, Lab. 3. Summer. Pr., CH 401 or its equivalent.
A study of modern topics in general chemistry and a short review of organic chemistry.
602. Organic Analysis (Qualitative) (3). Lab. 9. Pr., CH 305.
603. Quantitative Organic Analysis I (3). Lab. 9.
604. Organic Synthesis (3). Lab. 9.
605. Quantitative Organic Analysis II (3). Lab. 9. Pr., CH 603.
606. Carbohydrates I (3).
A study of the chemistry of mono and disaccharides.
607. Heterocyclic Compounds I (3).
608. Heterocyclic Compounds II (3). Pr., CH 607.
609. Metallo and Non-metallo Organic Compounds (3).
610. Intermediate Inorganic Chemistry II (3). Pr., CH 410.
611. Intermediate Inorganic Chemistry III (3). Pr., CH 610.
612. Inorganic Preparations I (3). Lab. 9. Pr., CH 410.
613. Inorganic Preparations II (3). Lab. 9. Pr., CH 612.
614. Advanced Inorganic Chemistry I (3).
615. Advanced Inorganic Chemistry II (3). Pr., CH 611.
616. Non-aqueous Solvents (3).
621. Structural Relations in Organic Chemistry as Obtained from Physical Measurements (3).
- 623-24-25. Organic Chemistry (3-3-3).
626. A Study of the Chemistry of Organic Nitrogen Compounds I (3).
627. A Study of the Chemistry of Organic Nitrogen Compounds II (3). Pr., CH 626.

628. **Carbohydrates II (3).** Pr., CH 606.
A study of the chemistry of the polysaccharides.
629. **Organic Polymers (3).** Pr., CH 625.
630. **Thermodynamics of Electrolytic Solutions (3).**
631. **Theory of Reaction Rates (3).**
632. **Mechanisms of Ionic Reaction and Free Radicals (3).**
- 633-34-35. **Physical Chemistry (3-3-3).**
636. **Chemical Thermodynamics II (3).** Pr., CH 403.
637. **Phase Rule (3).** Pr., CH 635.
638. **Surface Chemistry and Colloids (3).** Pr., CH 635.
639. **Statistical Thermodynamics (3).** Pr., CH 635.
Statistical approach to thermodynamics and chemical equilibrium.
640. **Introduction to Quantum Chemistry (3).** Pr., CH 635.
Quantum theory as applied to chemical problems.
641. **Amino Acids and Related Substances (3).**
642. **Lipids (3).**
Physical and chemical properties of these substances and their biochemical significance.
643. **Enzyme Chemistry (3).** Pr., CH 418-19-20 or their equivalent.
Physical and chemical properties and mechanism of action of enzymes and their role in metabolic reaction.
650. **Instrumental Analysis, Electrical and Optical Methods (3).** Lab. 9. Pr., CH 314 and CH 402.
651. **Theories of Analytical Chemistry (3).**
670. **Journal Club (No Credit).**
Required of all graduate students in chemistry.
690. **Directed Reading in Organic Chemistry.** Credit to be arranged. Pr., Advanced graduate standing.
691. **Directed Reading in Physical Chemistry.** Credit to be arranged. Pr., Advanced graduate standing.
692. **Directed Reading in Inorganic Chemistry.** Credit to be arranged. Pr., Advanced graduate standing.
699. **Research and Thesis.** Credit to be arranged. May be taken more than one quarter.
799. **Doctoral Research and Dissertation.** Credit to be arranged.

Civil Engineering (CE)

Professors Priest, Jaffe, and Watwood

Associate Professors Hudson, Popovics, Shih, Tewfik, and Thacker

Assistant Professor Blakney

Instructor Bray

201. **Surveying I (5).** Lec. 3, Lab. 6. Pr., MH 112 and EG 102 or equivalent.
Measurement of distances, elevations, and angles; adjustment of instruments; computation of positions, areas, and volumes; contours; grades; mapping, land surveying.
203. **Surveying II (5).** Lec. 3, Lab. 6. Pr., CE 201.
Route surveying; astronomic observations; photogrammetry.
210. **Engineering Surveying (3).** Lec. 2, Lab. 3. Pr., MH 112.
Use of chain transit and level; precision and accuracy of measurements; theory of errors.
For non-Civil Engineering students.
302. **Highway Engineering I (5).** Pr., CE 201.
Development of highways; geometric design; drainage; earthwork operations; construction materials; concrete and bituminous surfaces.
304. **Theory of Structures I (5).** Pr., ME 306.
Stress analysis of statically determinate structures; influence lines; combined stresses.
305. **Sanitary Engineering I (5).** Lec. 4, Lab. 3. Pr., CE 308.
Theory and design of water collection and distribution facilities and waste-water collection systems. Laboratory includes fundamental tests relating to both water supply and waste-water treatment. Emphasis placed on theory and significance of the tests.

306. **Higher Surveying (5).** Lec. 4, Lab. 3. Pr., CE 203.
Photogrammetry; map projections; geodesy; special instruments.
308. **Hydraulics (5).** ME 307.
Statics; fundamental equations of motion; ideal fluids; impulse momentum; real fluids; similitude and dimensional analysis; flow in pipes; flow in open channels; measurements; and flow around immersed objects.
310. **Construction Planning (3).** Lec. 2, Lab. 3. Pr., MH 111, junior standing.
Estimate of materials and costs; construction methods; progress charts and reports.
314. **Analysis of Aerial Photographs (3).** Lec. 2, Lab. 3. Pr., CH 342.
A study of soil and rock patterns, characteristics and drainage.
401. **Theory of Structures II (5).** Pr., CE 304, junior standing.
Moving loads; deflections; stress analysis of statically indeterminate structures including double integration, slope deflection and moment distribution.
402. **Indeterminate Structures (5).** Pr., CE 401 or ME 403, senior standing.
Continuation of CE 401; elastic energy; area moments; three-moment equation; secondary stresses.
403. **Highway Materials Laboratory (2).** Lab. 6. Pr., CE 302 and ME 309.
Routine tests of non-bituminous and bituminous materials; fundamentals of design of bituminous and concrete mixes.
404. **Reinforced Concrete (5).** Lec. 4, Lab. 3. Pr., CE 304, junior standing.
Beams and slabs; compression members; forms; building codes.
405. **Sanitary Engineering II (5).** Lec. 4, Lab. 3. Pr., CE 305, junior standing.
Theory, design, construction, and operation of water treatment and waste-water disposal facilities considered on a unit operations basis.
406. **Hydraulic Laboratory (1).** Lab. 3. Pr., CE 308 or ME 313.
Venturi Meters; analysis of experimental data; orifices and short tubes; Pitot tube; normal loss of energy in pipes; special loss of energy in pipes; uniform flow in open channels; control meters; impulse turbines; drag.
407. **Municipal Engineering I (5).** Pr., senior standing.
Duties and responsibilities of city engineer and municipal consultant; problems connected with promoting, financing, designing, and constructing municipal improvements.
408. **Engineering Foundations (5).** Pr., CE 404 or BT 413, senior standing.
Geology as related to design of foundations for engineering structures; design of foundations; use of concrete, steel, wood piling, caissons, cofferdams, grillages, and spread footings, reports on current articles in technical publications.
409. **Public Health Engineering (5).** Pr., senior standing.
Weather and climate, heating, ventilation, lighting; atmospheric pollution; noise; water and waste disposal, rural sanitation and public health aspects of nuclear energy.
410. **Highway Engineering II (5).** Lec. 4, Lab. 3. Pr., CE 302, junior standing.
Highway planning, financing, and administration; economics of highway improvement; transportation surveys; maintenance; traffic surveys; procedure of awarding contracts and supervision of construction.
411. **Flow in Open Channels (5).** Lec. 5. Pr., CE 308 or ME 313, junior standing.
Uniform flow, rapidly varied flow, gradually varied flow, subcritical transitions, surges, supercritical transitions, bends, precipitous slopes, energy dissipation, spillways, and oscillatory waves.
412. **Hydrology (5).** Lec. 5. Pr., CE 308 or ME 313, junior standing.
Precipitation, runoff, flood routing, flood control, river regulation, and coastal engineering problems.
414. **Structural Design I (5).** Lec. 4, Lab. 3. Pr., CE 304, junior standing.
Steel and timber design; flexural members; columns; trusses; connections; structural frameworks.
416. **Prestressed Concrete Design (5).** Pr., CE 404, senior standing.
Pretensioning and post-tensioning systems, design of statistically determinate and indeterminate prestressed members, flexure, shear, cracking, ultimate capacity, anchorage stresses, raised and stopped cables.
417. **Structural Design II (5).** Lec. 4, Lab. 3. Pr., consent of the instructor and senior standing.
Arches; continuous structures including bridges, buildings, and special frames.
418. **Soil Mechanics (5).** Lec. 4, Lab. 3. Pr., ME 306, junior standing.
Engineering properties of soils; soil surveys and sampling; stability; laboratory analysis and tests.
419. **Municipal Engineering II (5).** Pr., senior standing.
Engineering problems of municipal transportation, communications, water supply, sewerage, streets, schools, shopping, parking, and recreation facilities.

420. Sanitary Engineering Laboratory (5). Lec. 4, Lab. 3. Corequisite, CE 405, junior standing.

Laboratory studies of the physical, chemical, and bacteriological aspects of Sanitary Engineering; laboratory testing procedures and experiments relating to the treatment of waters and wastes; interpretation of routine plant control analyses and indices of pollution.

GRADUATE COURSES

600. Bituminous and Concrete Mix Design (5). Lec. 3, Lab. 6. Pr., CE 403.
Review of methods of design of bituminous and concrete mixes, with practice in job and laboratory control tests of aggregates and mixes.
601. Subgrade Stabilization (5). Lec. 3, Lab. 6. Pr. CE 418.
Studies of factors involved in stabilization with practice in laboratory and job control tests.
602. Advanced Soil Mechanics (5). Lec. 3, Lab. 6. Pr., CE 418.
Earth pressure theories; stability computations; seepage computations; consolidation; footing, raft, pile and pier foundation; shearing strengths.
610. Similitude (5). Lec. 4, Lab. 3. Pr., CE 308 or ME 313.
Principles of dimensional analysis and similitude, use of models, distorted models, and analogies.
611. Hydraulic Structures (5). Lec. 5. Pr., CE 308 or ME 313.
Dams, spillway, outlet works, gate structures, locks, structures for river regulation, canals, structures for shore protection, port facilities.
612. Hydrodynamics (5). Lec. 5. Pr., CE 308 or ME 313 and MH 361.
Equations of motion for nonviscous liquids, force potentials, velocity potentials, conformal mapping, circulation, vortices, equations of motion for viscous liquids, boundary layers, drag, turbulence, and wave motion.
613. Flow of Fluids in Pipes (5). Pr., CE 308 or ME 313.
Viscous and turbulent flow of liquids, effect of compressibility, pressure waves, secondary flows, control devices, measuring devices.
620. Advanced Sanitary Engineering (5). Pr., CE 405, Corequisite, CE 409.
An advanced study of the principles utilized in water and sewage treatment processes and public health engineering practice.
621. Advanced Sanitary Engineering Design (5). Lec. 3, Lab. 6. Pr., CE 620.
Problems in the layout and design of water, sewage, or industrial waste systems and treatment plants.
622. Advanced Sanitary Engineering Practice (5). Lec. 3, Lab. 6. Pr., CE 420, CE 620.
Advanced laboratory problems and field exercises in the application of sanitary examination of water, milk, food, wastes, and air; stream pollution and industrial waste surveys; protection of water supplies from nuclear and biological warfare agents.
623. Industrial Waste Treatment (5). Pr., CE 620.
Industrial waste problems, including characteristics of individual industries, effects on streams, and methods of treatment; also the disposal of nuclear wastes.
630. Advanced Stress Analysis (5). Lec. 4, Lab. 3. Pr., consent of instructor.
Buckling of structures, analysis of elastic and plastic stability, torsion, secondary stresses, arches, theory of limit design.
631. Special Topics in Structural Design (5). Lec. 4, Lab. 3. Pr., CE 630.
Design problems related to continuous frames and trusses; economical proportions, analysis and design of connections.
632. Experimental Stress Analysis (5). Lec. 3, Lab. 6. Pr., consent of instructor.
Basic theory and laboratory techniques for experimental stress analysis; measurement of strain by mechanical and electrical gages, brittle lacquer, and photogrid; two dimensional photoelasticity; membrane analogies; treatment of errors. A term paper is required, except for undergraduate students who may be permitted to enroll in this course.
633. Elasticity (5). Pr., consent of instructor.
Plane stress and plane strain; differential equations of equilibrium; equations of compatibility, two-dimensional problems in rectangular and polar coordinates; strain-energy methods; analysis of stress and strain in three dimensions; torsion of circular and non-circular cross-section; bending of prismatical bars; stress evaluation from strain measurements.
634. Advanced Reinforced Concrete (5). Lec. 5. Pr., CE 404.
Effect of shrinkage, plastic flow and deflection on concrete design. Plastic and ultimate strength theories of design. Fundamentals of prestressed concrete.
690. Seminar. Credit to be arranged. May be taken more than one quarter.
699. Thesis. Credit to be arranged. May be taken more than one quarter.

Dairy Husbandry (DH)

Professor Autrey
Associate Professors Cannon and Rollins

The department offers training in the theory and practice of dairy husbandry and dairy manufacturing. Courses are designed to meet the practical and scientific needs of farm and factory practices. Requirements for doing graduate work are described in the graduate catalog.

It is expected that each student taking a major in this department shall have four months of practical dairy farm or dairy plant experience before graduation.

200. **Fundamentals of Dairying (5).** Lec. 4, Lab. 3. All quarters. Pr., CH 103. Not open to students who have had DH 201 or DH 301. Staff
 General survey of dairying. Feeding, care and management of dairy cattle. Dairy farm equipment and records. Composition and properties of milk. Handling, testing and processing of milk.
305. **Practical Dairy Tests (5).** Lec. 3, Lab. 4. Fall. Pr., DH 200 or DH 201. Cannon
 Routine laboratory practices in testing dairy products and the application of such tests in controlling the composition of dairy products; adapted to dairy inspection work.
308. **Dairy Bacteriology (5).** Lec. 3, Lab. 4. Winter. Pr., DH 200 or DH 201, VM Cannon
 Bacteriology of dairy products; types of organisms encountered and their practical significance; routine bacteriological tests and their application.
310. **Technical Control of Dairy Products (5).** Lec. 3, Lab. 4. Spring. Pr., DH 305 Cannon
 Application of bacteriological and chemical tests to plant operation. Special tests and their application.
- 311-12-13. **Judging Dairy Products (1-1-1).** Lab. 3. Winter, Spring, Fall. Cannon
 Flavor analysis of dairy products. Score cards used in evaluation of flavor characteristics and other factors.
- 314-15-16. **Judging Dairy Cattle (1-1-1).** Lab. 3. Winter, Spring, Fall. Rollins
 Studies and practical work in comparative judging of dairy cattle; study of breed score cards; fitting for exhibition.
317. **Dairy Cattle Feeding and Management (5).** Lec. 4, Lab. 3. Fall. Pr., DH 200 or DH 301, AH 204. Rollins
 Evaluation of various feeds for growth and milk production; nutritional requirements of dairy animals; application of the principles of nutrition to dairy cattle feeding; calculating rations. Some time devoted to dairy cattle breeding plans, procedures of herd record keeping; management problems.
402. **Artificial Insemination (3).** Lec. 1, Lab. 6. Winter. Pr., DH 200 and junior or senior standing. Rollins
 The Artificial Insemination Association; anatomy and physiology of bovine reproduction; practice in collecting, processing and using semen in breeding cows; and study of factors affecting breeding efficiency.
403. **Dairy Farm Practices (5).** Lec. 3, Lab. 6. Spring. Pr., DH 317 and junior standing. Rollins
 Practical study of feed production, storage, and feeding problems; analysis of herd records and pedigrees; study of herd management procedures. In this course emphasis is on situations and records existing on dairy farms.
406. **Dairy Cattle Feeding and Management (3).** Pr., AH 204 and DH 200 or DH 317, and graduate standing.
 Bases of modern feeding practices; emphasis on reasons for feeding high quality roughage and high energy feeds. Limited study of dairy herd management problems and practices; milk production, testing and recording; appraisal of artificial breeding as a tool in cattle improvement.
- 408-9-10. **Dairy Plant Processing (5-5-5).** Fall, Winter. Lec. 4, Lab. 3. (Spring. Lec. 2, Lab. 9.) Pr., senior standing. Cannon
 Detailed study of fundamental processing operations. Application of these operations in market milk production and in the manufacture of cheese, ice cream, butter and condensed dairy products.
411. **Food Plant Sanitation (3).** Lec. 2, Lab. 2. Winter. Pr., junior standing. Cannon
 Sanitary regulation of food plants. Principles and procedures of cleaning and sanitizing food handling equipment.

GRADUATE COURSES

601. **Milk Secretion (5). Pr., DH 317.** Autrey
Anatomy and physiology of milk secretion; milk precursors; factors affecting composition of milk.
602. **Advanced Technical Control of Dairy Products (5). Fall. Pr., DH 305.** Cannon
Advanced methods of analyses of dairy products and the relation between composition and processing methods.
603. **Special Problems in Dairy Cattle Nutrition (3). Lec. 4. Pr., DH 406 and graduate standing.**
Study of literature on classical dairy cattle nutrition research and on current nutrition problems. Emphasis on interpretation and appraisal of research results reported in literature. (Credit for both DH 603 and DH 608 may not be used to meet requirements for the Master's degree.)
604. **Advanced Market Milk (5). Pr., DH 304.** Autrey and Cannon
Scientific investigations of current problems and their application to the commercial processing and handling of market milk. Special assigned problems.
605. **Advanced Ice Cream Making (5). Pr., DH 401.** Cannon
Scientific investigations of current problems and their application to the commercial manufacture and handling of ice cream. Special assigned problems.
607. **Advanced Dairy Cattle Breeding (5). Pr., DH 402 and DH 403.** Autrey, Rollins
The anatomy and physiology of reproduction in dairy cattle; artificial insemination problems.
608. **Special Problems in Dairy Cattle Feeding and Management (5). Fall. Pr., DH 317, 403.** Staff
Critical review of literature on dairy cattle feeding and management; analysis and interpretation of recent research results.
609. **Experimental Methods in Dairy Research (5). Pr., BY 401.** Staff
Study of technics in designing dairy research projects and in analyzing results.
611. **Seminar. (1). May be taken for more than one quarter.** Staff
699. **Research and Thesis. Credit to be arranged.** Staff

Dramatic Arts (DR)

Head Professor Peet
Assistant Professor Knowles

101. **Dramatic Production (5). Lec. 2, Lab. 9.**
An apprenticeship in the fundamentals of producing plays from the practical point of view. A general grounding in the field.
102. **Acting and Stage Techniques (5). Lec. 2, Lab. 9.**
An introduction to acting and methods of production.
199. **Dramatics (1).**
Any student interested in working with the Department of Dramatic Arts' producing organization, the Auburn Players, is eligible. A minimum of thirty hours' work is required. (May be taken for credit for a maximum of six quarter hours.)
201. **Directing (5). Lec. 3, Lab. 6.**
An elementary study of the process of directing non-professionals.
202. **Acting and Make-Up (5). Lec. 3, Lab. 6.**
The technique and psychology of acting, and elementary stage make-up.
203. **Stage Mechanics (5). Lec. 3, Lab. 6.**
A study of scene design, materials, construction, and stage lighting.
204. **Dramatic Theory (5).**
A study of the dramatic theories of the past and present which have influenced the present day theatre.
- 310-11-12. **World Theatre (5-5-5). Pr., DR 201-2-3-4 or permission of instructor.**
An advanced course dealing with the plays, actors, stages, and audiences, and with the aesthetic and social backgrounds of the theatre from the beginning through the Nineteenth Century.
313. **Drama Appreciation I (3). General elective. Not open to Dramatic Arts Majors.**
A survey of the theatre and stagecraft from early times to the present day, emphasizing the social and artistic position of the stage in each civilization.
314. **Drama Appreciation II (3). General elective.**
A survey of contemporary plays and productions, aimed to make theatre-going intelligent fun.

- 401-2-3. Advanced Directing (5-5-5).** Lec. 1, Lab. 12. Pr., junior standing, permission of instructor.
Productions will be prepared and produced by the student.
- 407-8-9. Advanced Stagecraft (5-5-5).** Lec. 1, Lab. 12. Pr., junior standing, permission of instructor.
Productions will be designed, built, lighted and operated by the student.
- 413. Twentieth Century Theatre (5).** Pr., junior standing, permission of instructor.
A study of the present-day theatre.
- 425-26. Dramatics in the School (5-5).** Pr., senior or graduate standing. (Either part can be taken separately.) To be offered in the Summer quarter only.
For the teacher who is called upon to select, plan, coach, and produce plays, classroom and assembly programs. The course gives a background of what-to-do and how-to-do-it.

Economics (EC), Secretarial Training (ST) and Sociology (SY)

Head Professor Anson

Professors Collins, Klontz, Miller, Richardson, Ritland, and Sanders

Research Professor Steele

Associate Professors Boston^o, Gritz, Hartman, Hill, Lewis, Myles,

Patton, Hartwig, and Stalnaker

Assistant Professors Bagwell, Beck, Burge, Bliss, J. S. Cook,

Corrigan, Frisby, Gildea, D. P. Hale, F. O. Hale, Hanna,

Holcomb, Kinney, Lamar, Shields, Waldo, and Williams

Instructors Carpenter, C. W. Cook^o, Middleton^o, Dorman, Hourihan,

Prestridge^o, Reynolds, Robbins, Rutledge, Evans, and Brown^o

Graduate Assistants Garner, Nickerson and Selvey

Economics (EC)

The program in Economics and Business Administration is designed to prepare students for careers in business and industry. It also offers training for careers which require basic study in Economics supplemented with a broad cultural program. Courses are arranged below to indicate the different fields of concentration available to departmental majors and to students in other departments and schools. Students in the Science and Literature curriculum majoring in Economics must include EC 201-2; 345, and 360. Business Administration majors follow the curriculum outlined on page 179.

Accounting

- 211-12. Introductory Accounting (5-5).** Lec. 3, Lab. 4. Pr., sophomore standing.
Gritz, Staff
A study of bookkeeping procedure and elementary accounting principles. EC 211 is prerequisite to EC 212.
- 213-14. Engineering Accounting and Cost Control (5-5).** Lec. 3, Lab. 4. Pr., sophomore standing. EC 213 is prerequisite to EC 214.
Hill, Staff
This course is particularly designed for students of engineering. During the first course basic accounting principles and procedures are stressed from an engineering approach. During the second course emphasis is made on cost finding and cost accounting control of industrial concerns.
- 311-12. Intermediate Accounting (5-5).** Lec. 3, Lab. 4. Pr., EC 212 or 214.
Hartman, Staff
A study of the advanced principles of accounting involving partnerships, corporations, systems, and analysis of financial statements.
- 314. Income Tax Accounting (5).** Pr., EC 212 or 214.
Gritz, Staff
Interpretation of the regulations, preparation of returns, and the keeping of accounting records for tax purposes will be considered in this course.
- 411-12. Cost Accounting (5).** Lec. 2, Lab. 6. Pr., junior standing and EC 214 or 312.
Hill, Staff
A study of accounting principles involved in job-lot, process and standard cost systems.
- 414. Advanced Income Tax Accounting (5).** Pr., junior standing and EC 312 and EC 314.
Staff
A study of special tax accounting problems of individuals, partnerships, corporations, estates, and trusts. Extensive use will be made of a tax service program.

^o Temporary.

^{oo} On leave.

- 416. Auditing (5). Pr., junior standing and EC 312.** Gritz, Staff
This course is a study of the principles of auditing with particular attention to methods of testing, analyzing, and summarizing accounting records.
- 417-18. Advanced Accounting (5-5). Lec. 2, Lab. 6. Pr., junior standing and EC 312.** Staff
Advanced accounting theories and procedures, consolidation of financial statements, and other special problems will be studied in this course.
- 419. Governmental Accounting (5). Summer and Winter Quarters. Pr., junior standing and EC 312.** Hartman
A study of budgeting and accounting procedures of governmental divisions.

Economic Theory and History

- 200. General Economics (5). Pr., sophomore standing.** Ritland, Staff
A survey course in principles and problems of economics dealing with analyses of production costs, determination of prices, and national income composition and distribution. This course not open to majors in Economics and Business Administration. Primarily a service course for students majoring outside the Commerce and Economics fields. Credit may not be earned in both EC 200 and EC 201.
- 201-2. Principles and Problems of Economics (5-5). Pr., sophomore standing. (EC 201 is prerequisite to EC 202.)** Hanna, Collins, Miller
An introduction to the principles of economics and analysis of contemporary economic problems and trends. Required of all Economics and Business Administration majors. Credit may not be earned in both EC 200 and EC 201.
- 206. Socio-Economic Foundations of Contemporary America (3). General Elective.** Staff
An appraisal and survey of the social and economic developments which lead to and help toward an understanding of present day American society. Economic and social institutional development is studied against the background of the Industrial Revolution.
- 357. Economic History of Europe (5). Pr., junior standing.** Richardson
A survey course dealing with the economic contributions of the medieval period; mercantilism; laissez-faire; and the developments in agriculture, industry, transportation, trade, and banking to World War II.
- 358. Economic History of the United States (5). Pr., junior standing.** Richardson
The course comprises a study of the development of the economic institutions, growth of industries, regional specialization, and relation of government to business enterprise from the Colonial period to the present.
- 451. Intermediate Economic Theory (5). Pr., EC 202, junior standing.** Steele
A study of economic trends both here and abroad.
- 452. Comparative Economic Systems (5). Pr., EC 202, junior standing.** Ritland
An analysis of the rival economic doctrines of Capitalism, Socialism, and Communism.
- 460. Economic Development of the South (5). Pr., junior standing and EC 358 or consent of the instructor.** Richardson
In this course the historical approach is used in a study of industries, transportation, banking, etc., in the South. Economic changes are traced and an attempt made to ascertain the fundamental causes that brought them about. Emphasis is given to Alabama's place in the economic picture.
- 471. Foreign Trade (5). EC 202, junior standing.** Miller
This course treats the economic background of foreign trade, various products in foreign trade, balance of trade, financing foreign trade, etc.

Finance

- 360. Money and Banking (5). Pr., EC 202 or AS 202, junior standing.** Hanna, Stalnaker
The principles of money, credit and banking including consideration of monetary systems, foreign exchange and commercial banking with relation to the Federal Reserve System.
- 446. Business Cycles (5). Pr., EC 200 or EC 202, and junior standing.** Collins
An analysis of the causation of economic cycles, their measurement and proposed means of control.
- 462. Monetary Theory and Policy (5). Pr., junior standing and EC 360.** Collins
An advanced study of monetary and banking policy. Attention given to government fiscal policies and programs.
- 463. Corporation Finance (5). Pr., EC 200 or 201, junior standing.** Patton
This course covers a practical survey of the financial organization and policies of modern business enterprise with special emphasis on the corporation.

464. Investments (5). Pr., EC 463, junior standing. Patton
This is a study of individual investment policies, investment institutions, and types of investments available.
465. Public Finance (5). Pr., EC 202, junior standing. Collins
A study of the facts and principles of government revenues and disbursements including attention to state and local financial problems.

General Business

101. Introduction to Business and Industry (5). Frisby, Staff
An introductory course for business administration students, covering business procedure, business organization and a survey of the economic system. Not open to junior or seniors or to students with credit in EC 200 or 201.
321. Property Insurance (5). EC 200 or 201 and junior standing. Stalnaker
The principles, uses and types of insurance with particular emphasis on fire, marine, automobile and casualty lines.
322. Life Insurance (5). Pr., EC 200 or 201, junior standing. Stalnaker
A study of the organization of the life insurance business and of the various types of contracts.
323. Real Estate (5). Pr., EC 200 or 201, junior standing. Stalnaker
The fundamental principles and practices as applied to the purchase, sale, lease, mortgage, title and management of real estate.
340. Personal Finance (3). General elective. Pr., junior standing. Staff
An informative study of plans for managing personal financial problems involving insurance, housing, household budgeting, investments, personal and bank loans, credit and time buying, etc.
341. Business Law (5). Pr., EC 200 or EC 201, and junior standing. Cook
This course covers a study of contracts, torts, courts and partnerships from the standpoint of the average citizen. EC 343 excludes credit for this course.
343. The Law and Contracts (3). Pr., EC 200 or 201, and junior standing. EC 341 excludes credit for this course. Cook
An introduction to the historical background of law and legal institutions and a study of the law of contracts as it applies in Commerce and Industry.
402. American Industries (5). Pr., EC 200 or 201, and junior standing. Klontz
An intensive study of selected industries, emphasizing economic factors affecting growth, organization and operation.
404. Office Management (5). Pr., EC 200 or EC 201, junior standing. Frisby
Office organization, equipment, layout, planning, personnel supervision, direction of office activities, executive control.
472. Economics of Transportation (5). Pr., EC 200 or 201, junior standing. Holcomb
This course traces the development of systems of transportation. Rates are studied as they affect agriculture, commerce and industry. Attention is also given to government regulation of transportation agencies.
473. Traffic Management (5). Pr., junior standing and EC 472, or permission of instructor. Holcomb
A course designed to acquaint students with the fundamentals of traffic control work touching upon the various transportation services.
476. Motor Transportation (5). Pr., EC 200 or 201, junior standing. Holcomb
A study of the economics of the motor transportation business with emphasis on freight and passenger carriers and the highway system. Particularly designed for students of business and of civil engineering.
480. Business Policies and Administration (5). Pr., EC 202 or AS 202, senior standing. Staff
A study of the formulation and application of policies and programs pertaining to personnel, production, finance, procurement and sales in the business enterprise.

Geography

102. Principles of Geography (5). Not open to juniors or seniors. Bagwell, Dorman
Basic course in geography. Man and his works in relations to the Earth as a planet, location, climate, land forms, water bodies, minerals, soils, biota.
103. Economic Geography (5). Not open to juniors or seniors. Gildea, Dorman
An elementary, systematic study of distribution and environmental relations of man's principal economic works. Designed primarily for business administration students.

- 301. Geo-Political Basis of World Powers (3).** General elective. Pr., junior standing. Gildea, Richardson
Deals with the interaction between the natural-physical environment and the international activities of world powers. Emphasis is placed upon the changing geographic and economic patterns in world affairs.
- 304. Geography of South America (5).** Pr., junior standing. Bagwell
A regional survey of economic and social development, resources and products.
- 305. Geography of North America (5).** Pr., junior standing. Bagwell
Human-use regions, resources, social and economic developments will be studied.
- 306. Geography of Europe (5).** Pr., junior standing. Bagwell
An analysis of the influences of climate, surface features, and natural resources on the distribution of peoples, their industries and routes of trade. Consideration will be given to each country within its regional setting and to the relationship of Europe to the remainder of the world.
- 307. Geography of Asia (5).** Pr., junior standing. Bagwell
A survey of climate, topography, and natural resources and their influence upon the distribution of peoples, their industries and commerce.
- 308. Geography of Africa (5).** Pr., junior standing. Bagwell
A study of the principal regions of Africa with particular emphasis on the areas and countries of greater economic and international importance.
- 405. Cultural Geography of the World (5).** Pr., senior or graduate standing. Richardson
A study of the influence of physiographic factors in the social, economic and political development of peoples and states.
- 407. World Resources and Their Utilization (5).** Pr., junior standing. Gildea
The world's principal natural resources are studied primarily from the geographic point of view (location, transportation, topography, water supply, power sources, climate, etc.). Covers the principles of resource appraisal, the changing nature of resource utilization, and resource conservation.

Marketing

- 331. Principles of Marketing (5).** Pr., EC 200 or 201, junior standing. Carpenter, Lewis
A general but critical survey of the field of marketing covering marketing channels, functions, methods and institutions.
- 332. Credits and Collections (5).** Pr., EC 200 or 201, junior standing. Frisby
This course is a study of the nature and functions of credit, credit instruments, credit information, mercantile and installment credit, credit department, organization and management, collection methods, credit insurance, etc.
- 333. Salesmanship (5).** Pr., junior standing. Lewis
A study of the principles and problems in personal selling covering the various steps involved in the selling process. Consideration is also given to the economics of selling and to material useful to salesmen but outside the field of selling techniques.
- 432. Advertising (5).** Pr., EC 331, junior standing. Lewis
A study of the principles and practices involved in advertising. Material covered includes the analysis of the need for advertising, preliminary product and market analyses needed for efficient advertising, planning campaigns, media selection, copy, layout and advertising production.
- 433. Retail Store Management (5).** Pr., EC 331, junior standing. Carpenter
A study of the principles and practices involved in the scientific operation of the retail store. Store location, layout, buying, pricing, and merchandise control are considered among other topics.
- 434. Purchasing (5).** Pr., EC 331, junior standing. Carpenter
This course deals with the objectives, the control and the direction of industrial purchasing.
- 435. Marketing Problems (5).** Pr., EC 331, junior standing. Lewis
This course deals with marketing problems, policies, costs, channels of distribution, terminal markets, trade barriers and legislation.
- 436. Business Research Methods (5).** Pr., EC 331, junior standing. Lewis
A study of the methods of scientific research in the field of marketing and their application to the solution of marketing problems. Deals with the planning of an investigation, gathering data, tabulation and analysis, editing, interpretation of data, presentation of reports, determination of market potentials and of various types of quotas.

437. Sales Management (5). Pr., EC 331, junior standing. **Lewis**
A study of the principles and practices of sound organization and administration of a sales organization. Includes consideration of: sales department organization, selecting, training, compensating, and supervising salesmen, sales planning, setting up sales territories and quotas and other problems.
438. Retail Merchandising (5). Pr., junior standing and EC 433. **Carpenter**
Deals with the planning, policies, procedures, and techniques necessary to insure a balanced assortment of merchandise consistent with customer demand and profitable operation. Profit computation, pricing, inventory evaluation, stock planning and stock control are among topics covered.

Personnel Management and Industrial Relations

350. Labor Problems (5). Pr., EC 200 or 201, junior standing. **Anson, Kinsey, Steele**
This is a survey of the problems of the industrial workers from the standpoint of the worker, the employer, and society.
442. Personnel Management (5). Pr., EC 200 or 201, junior standing. **Myles, Prestridge**
A course dealing with the management of labor, touching upon selection, training, placement, turnover, payment policies, employee representation, etc.
444. Labor Legislation (5). Pr., EC 350, junior standing. **Steele, Kinsey**
Analysis of background, content, and significance of industrial relations, wage and hour, and selected social security laws.
445. Industrial Relations (5). Pr., EC 200 or 201, junior standing. **Anson, Kinsey, Steele**
An analysis of legislation, collective bargaining, union-management cooperation and economic conditions bearing upon employer-employee relations.
449. Advanced Personnel Management (5). Pr., EC 442 or PG 461. **Myles, Steele**
This course deals with the solution of selected subjects or problems which confront personnel managers and related supervisory personnel. Specialized problems and subjects such as: maintenance of communications, wages and incentives, morale, merit rating, development and training of leaders, counseling, grievance control and recognition of human factors in industry will be considered.
450. Job Evaluation and Incentive Systems (5). Pr., EC 442, senior standing. **Myles**
A study of wage and salary policy and administration with special emphasis upon the functioning of job analysis, job evaluation, and methods of providing incentives in industry and business.

Statistics

345. Statistics (5). Lec. 5, Lab. 2. Pr., EC 200 or 201, junior standing. **Klontz, Burge, Staff**
A study of the methods of collecting, presenting, and analyzing statistical data; tabular and graphic presentation, frequency distribution, time series and statistical inference.
474. Advanced Statistics (5). Pr., junior standing and EC 345 or MH 127 and consent of instructor. **Klontz**
More advanced methods of statistical analysis including curve fitting; curvilinear, multiple and partial correlation; analysis of variance.

GRADUATE COURSES (EC)

600. The National Income and Capital Accumulation (5). Pr., EC 202 and graduate standing or consent of instructor. **Miller**
The course considers the computation of the national income, the uses of income data, interest rates, saving and investment, the monetary and credit system.
601. Value and Distribution (5). Pr., EC 202 and graduate standing or consent of instructor. **Miller**
This course is an attempt to set forth the positive content and limitations of the modern theories of value, wages, rents, and profits.
605. Business Survey Techniques (5). Pr., EC 345 and consent of instructor. **Klontz**
The theory and practice of sampling human populations, with especial emphasis upon public opinion sampling market research, and other similar surveys. Types of samples, size of sample, practical methods of sampling, reliability of results. Principal sampling methods used by government and business are studied. Class will conduct a complete survey from making out schedule to collecting information and analyzing results.
611. Advanced Accounting Theory (5). Pr., EC 312 and graduate standing or consent of instructor. **Gritz**
A review of the origin and development of double-entry Accounting, followed by a critical study of the theory of modern Accounting principles and procedures.
614. Accounting Systems (5). **Gritz**

616. **Advanced Auditing (5).** Pr., EC 416 and graduate standing or consent of instructor. **Hill**
This course will cover the application of auditing principles and procedures to practical problems encountered in the fields of public and private accounting.
617. **Advanced Accounting Problems (5).** Pr., EC 417 and graduate standing or consent of instructor. **Hill**
This course is an extension to and a consolidation of all the other advanced accounting courses. Attention will be given to preparation for special accounting examination.
621. **Personnel and Labor Policy (5).** **Kincey, Steele**
Seminar analysis and discussion of selected personnel or labor problems, programs and cases.
650. **Economic Seminar (5).** Pr., graduate standing or consent of instructor. **Staff**
A course designed for those students engaged in intensive study and analysis of economic problems.
674. **Advanced Statistical Analysis (5).** Pr., EC 474. **Klontz**
Further study of analysis of variance; analysis of covariance; introduction to econometrics.
699. **Research and Thesis.** Credit to be arranged. May be taken more than one quarter. **Staff**

Secretarial Training (ST)

For listing of courses, see page 300.

Sociology (SY)

For listing of courses see page 301.

Education (ED)

Dean Truman M. Pierce

Administration, Supervision, and Guidance, Head Professor Pierce
Professor White

Associate Professors Lovell and H. F. Vallery
Assistant Professors Nunnery, Saunders, and Tincher

Agricultural Education, Head Professor Montgomery
Associate Professors Bottoms, Deloney, and Gandy

Assistant Professor Pruett
Elementary Education, Head Professor Dalton

Associate Professor Callaway
Assistant Professor Ellisor

Instructor Newell
Psychology, Head Professor Bills

Professor McIntyre
Assistant Professors Barrett-Lennard, Frederick, Mayer, and Ward
Instructors Sanders and Georgia Vallery**

Secondary Education, Head Professor Davis

Professors Hollaway, Irvine, Kuderna, Lapp, and Punke
Associate Professors Atkins, Evans, Frymier, Hall, Pickett, and Scheid

Assistant Professors Dorné, Justice, and Robinson
*Instructor Ottis**

Elementary Education

Head Professor Dalton
Associate Professor Callaway
Assistant Professor Ellisor
Instructor Newell

- 102-3-4. **Orientation: Personal and Professional (1-1-1).** All quarters. **Staff**
Description given under Courses for Supporting Programs in Areas of Specialization.
200. **Foundations (6).** Lec. 5, Lab. 3. All quarters. Pr., PG 213-214. **Staff**
Description given under Courses for Supporting Programs in Areas of Specialization.
300. **Principles and Practices in Education (6).** Lec. 5, Lab. 3. All quarters. Pr., ED 200 or equivalent, junior standing. **Ellisor**
Description given under Courses for Supporting Programs in Areas of Specialization.

* Temporary.

329. **Health and Physical Education for the Elementary Teacher (4).** Pr., sophomore standing. Pickett
Teaching physical and recreational activities, developing health practices for individual and group living, and developing appropriate understandings in safety education for the different age levels in the elementary school.
370. **Arithmetic for the Elementary Teacher (5).** Pr., junior standing. Newell
Deals with the content and methods of teaching the basic skills in arithmetic. The relationship of numbers to other subject areas is given attention.
371. **Language Arts for the Elementary Teacher (5).** Pr., junior standing. Callaway
An intensive study of the teaching of reading and considerable attention to spelling, writing, speaking, and listening.
372. **Science for the Elementary Teacher (5).** Pr., junior standing. Newell
Content and methods of teaching elementary school science. A balance is maintained between the biological and physical sciences. Attention is given to the functional aspects of science in the selection and use of materials, demonstrations, and experiments as related to the elementary school program.
395. **Music for the Elementary Teacher (5).** Pr., sophomore standing. Justice
The teaching of music in the first six grades, with special emphasis on appropriate musical experiences for children.
480. **Student Teaching in Elementary School (10-15).** Pr., senior standing. Staff
Actual teaching experiences in an off-campus situation except for experienced teachers enrolled in the summer workshop.
490. **Evaluation, Pupil Growth, and Selected Topics (3).** Lec. 2, Lab. 3. Pr., senior standing. Staff
Description given under Courses for Supporting Programs in Areas of Specialization.

Advanced Undergraduate and Graduate

421. **Social Education in the Elementary School (4).** Pr., junior standing. Dalton, Ellis
The selection, organization, and guidance of social learning in the elementary school and the appropriate interrelatedness of social learning with skills, recreational and creative activities, and special interests.
471. **Remedial Procedures in Reading (5).** Pr., junior standing. Callaway
This course aims to produce skilled workers in the remedial aspects of reading. Emphasis will be placed on the diagnosis of reading disabilities and appropriate individual and group techniques for correcting deficiencies discovered.
472. **Books and Related Materials for Children (4).** Pr., junior standing. Dalton, Ellis
Description given under Courses in Library Science.
496. **Music in the Elementary School (5).** Pr., junior standing. Justice
To give the individual teacher a deeper insight into skills, techniques, and knowledge of music. Appropriate materials, adapted to social and musical interests of children, are studied and evaluated.

Secondary Education

Head Professor Davis

Professors Hollaway, Irvine, Kuderna, Lapp, and Punke

Associate Professors Atkins, Evans, Frymier, Hall, Pickett, and Scheid

Assistant Professors Dorné, Justice, Robinson

Instructor Ottis

Undergraduate

For description of the following courses see under Courses for Supporting Programs in Areas of Specialization.

- 102-3-4. **Orientation: Personal and Professional (1-1-1).** All quarters. Staff
200. **Foundations (6).** Lec. 5, Lab. 3. All quarters. Pr., PG 213-214. Staff
300. **Principles and Practices in Education (6).** Lec. 5, Lab. 3. All quarters. Pr., ED 200 or equivalent, junior standing. Staff
429. **Problems of Health Education and Health Observation of School Children (5).** Pr., junior standing. Evans, Lapp, Pickett
453. **Science and Modern Living (5).** Pr., sophomore standing. Atkins, Kuderna
473. **General Science for Teachers (5).** Lec. 4, Lab. 2. Pr., junior standing. Atkins, Kuderna

490. Evaluation, Pupil Growth, and Selected Topics (3). Lec. 2, Lab. 3. Pr., senior standing. Staff

Courses in Teaching in the Respective Areas of the Secondary School

These courses provide for examination, application, and scientific evaluation of methods, techniques, and procedures used in the different areas of the secondary school program. These will include such activities as resource unit preparation, observation and participation in actual classroom situations, and opportunities for actual participation in using different teaching techniques and procedures.

All students will take one course in Teaching in the major and one in the minor.

During the summer quarter these courses will be open only to experienced teachers and special students attending either one or both terms and will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different areas represented in the class.

405. Teaching in Secondary School (Major Field) (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200, or equivalent; Pr. or coreq., ED 300 or equivalent.

406. Teaching in Secondary School (Minor Field) (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200, or equivalent; Pr. or coreq., ED 300 or equivalent.

(A) Business Education (Fall)

Hall

(B) Foreign Languages (Fall)

Ottis

(C) Language Arts (Fall, Spring)

Scheid

(D) Mathematics (Fall)

Kuderna

(E) Science (Fall)

Atkins

(F) Social Science (Fall, Winter, Spring)

Frymier, Punke

407. Teaching Home Economics Education (5). Lec. 4, Lab. 2. Fall, Spring. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr. or coreq., ED 300 or equivalent. Robinson

(Teaching and Program courses will be taught on a unified basis as experience and scheduling permit.)

Courses on Program in the Respective Areas of the Secondary School

These courses provide for making an analysis of the function and purpose of appropriate subject matter in the secondary school curriculum including an examination of basic philosophical assumptions and principles which form the basis for the selection and organization of curriculum content in the respective fields.

All students will take one course in Program in the major and one in the minor.

During the summer quarter these courses will be open only to experienced teachers and special students attending either one or both terms and will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class.

410. Program in Secondary School (Major Field) (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr. or coreq., ED 300 or equivalent

411. Program in Secondary School (Minor Field) (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr. or coreq., ED 300 or equivalent.

(A) Business Education (Spring)

Hall

(B) Foreign Language (to be arranged)

Ottis

(C) Language Arts (Winter, Spring)

Scheid

(D) Mathematics (Spring)

Kuderna

(E) Science (Spring)

Atkins

(F) Social Science (Fall, Winter, Spring)

Frymier, Punke

412. Program in Home Economics Education (4). Lec. 3, Lab. 2. Fall, Spring. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr. or coreq., ED 300 or equivalent. Robinson

(Teaching and Program courses will be taught on a unified basis as experience and scheduling permit.)

Student Teaching in the Secondary School

These courses provide the student an opportunity to live in a community and receive first-hand experiences in teaching. The experiences include personal and

professional contacts with the different aspects of community life and making application of concepts, skills, and knowledge of classroom situations.

The courses are organized on the lecture-laboratory basis. Students spend approximately one to two weeks in a lecture situation on the campus before reporting to their student teaching assignment. Eight to nine weeks are spent living in a community and working in the school. Upon completion of the off-campus experience, students return to the campus for one to two weeks for lectures, discussions, and evaluation. The student should have completed a large part of the work in both the major and minor areas of specialization prior to taking Student Teaching.

During the summer quarter these courses will be open only to experienced teachers and special students enrolled for the quarter and will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class. Observation and practice experiences will be provided in keeping with individual and group needs.

413. Student Teaching in Secondary School (10 or 15). Fall, Winter, Spring. Pr., 9 hours of Psychology, ED 200 or equivalent; ED 300 or equivalent, two courses on Teaching and Program in the Secondary School, and junior or senior standing.

- (A) Business Education
- (B) Foreign Languages
- (C) Home Economics Education
- (D) Language Arts
- (E) Mathematics
- (F) Science
- (G) Social Science

Hall
Scheid
Robinson
Scheid
Kuderna
Atkins
Frymier, Punke

Advanced Undergraduate and Graduate

409. Advanced Hygiene for Teachers (5). Pr., Junior standing. Lapp, Pickett
Hygienic living as a mode of life viewed from person and group standpoints: forces for health; infection; accidents and poisoning; reproduction; mental health; also included—circulation, nutrition, weight control, posture, sunlight, clothing, cleanliness, vision.

Graduate

619. Scientific Principles Applied to Physical Education and Athletics (5). Pr., Undergraduate major or minor in health and physical education. Lapp, Pickett
Specific application of physics, physiology, and psychology to the development of physical skills and related topics including reaction time, motivation, maturation, illusions, morale, and problems of group social living in physical education and athletics.

- 640-641. Advanced Study of High School General Science (5-5). Pr., ED 473. Atkins
Intensive study of selected topics from the area of the high school general science program.

669. Physiology of Exercise (5). Pr., Undergraduate major or minor in health and physical education. Lapp, Pickett

A study of experiences in the physiology of muscular activity and application of these to physical education and athletic situations.

Courses For Supporting Programs In Areas Of Specialization In Elementary, Secondary, And Agricultural Education

Undergraduate

101. Orientation: Personal and Professional (3). Staff
Designed to help transfers from other curricula and students enrolled in other schools achieve optimum personal, social and intellectual development as college students and to assist them in understanding teaching as a profession. (Credit in ED 101 excludes credit in ED 102-3-4.)

- 102-3-4. Orientation: Personal and Professional (1-1-1). Staff
Designed to help freshmen achieve optimum personal, social, and intellectual development as college students and to assist them in planning professional careers. (Credit in ED 102-3-4 excludes credit in ED 101.)

200. Foundations (6). Lec. 5, Lab. 3. Pr., PG 213, and 214. All quarters. Staff
An analysis of basic information pertaining to philosophical, psychological, sociological and historical foundations, with emphasis on the relationship of these areas to human interaction and the public school. Lectures, discussion techniques, demonstrations, and laboratory procedures.

201. Education (2). Courses designed to help prospective teachers in the guidance of students.
(A) Exceptional Children, (B) Communication Problems, (C) Materials of Instruction, (D) Art Expression, (E) Music Experiences, (F) Measurement in Physical Education, (G) Improvement in Reading.
- 201L. Education (1). Lab. 2.
Laboratory courses may be taken concurrently with the corresponding lecture courses or independent of the lecture.
300. Principles and Practices in Education (6). Lec. 5, Lab. 3. Pr., PG 213, and 214; ED 200, or equivalent. Staff
- Purposes, principles, and practices of elementary and secondary education.
329. Health and Physical Education for the Elementary Teacher (4). Pickett
Description given under courses in Elementary Education.
420. Educational Sociology (5). Pr., PG 212. Irvine
Social environment in relation to the school and the child's responses to it; nature of society and function of the school therein; learner and the learning process; value and shortcomings of present school curriculums.
429. Problems of Health Education and Health Observation of School Children (5). Pr., Junior standing. Evans, Lapp, Pickett
Designed to help the teacher with the details of health observation and to aid in health guidance of individual pupils as well as to acquaint the teacher with the health services available through local and state departments.
453. Science and Modern Living (5). Pr., Sophomore standing. Atkins, Kuderna
An interpretive course stressing the relationship of science to problems of personal and social living in modern technological society. The critical role of science in democracy.
473. General Science for Teachers (5). Lec. 4, Lab. 2. Pr., Junior standing. Atkins, Kuderna
Intended to give the teacher essential knowledge of such fields as earth science, meteorology, astronomy, nuclear energy, which enter into the general science program of the high school.
490. Evaluation, Pupil Growth, and Selected Topics (3). Lec. 2, Lab. 2. All quarters. Pr., Senior standing. Staff
Examination of theories and techniques of testing and measurement, interpretation of educational statistics, self-evaluation and pupil accounting. Also, analysis and evaluation of social and educational problems affecting the total school program.

Advanced Undergraduate and Graduate

471. Remedial Procedures in Reading (5). Callaway
Description given under courses in Elementary Education.
472. Books and Related Materials for Children (4). Dalton, Ellisor
Description given under courses in Elementary Education.
476. An Introduction to the Study of the Exceptional Child (5). Pr., Senior standing. Dorné
An introductory course that deals with the etiology, incidence, diagnosis and philosophy of teaching the exceptional child. Special attention is given to the child who is blind, partially sighted, deaf, hard of hearing, speech defective, mentally retarded, or mentally superior.
482. Organization and Administration of School Libraries (5). Pr., Junior standing. Staff
Description given under courses in Library Science.
484. Classification and Cataloging of Library Materials (5). Pr., Junior standing. Staff
Description given under courses in Library Science.
- AD 485. Audio-Visual Materials (5). Lec. 4, Lab. 2. Pr., Junior standing. Deloney
Description given under courses in Agricultural Education.
486. Books and Related Materials for Young People (5). Pr., Junior standing. Staff
Description given under courses in Library Science.
494. Teaching Instrumental Music in the Secondary School (4). Justice
A practical course in the methods, materials, and procedure of teaching band and orchestral instruments in classes.
495. Teaching Piano or Voice in the Secondary School (4). Pr., Junior standing. Justice
A practical course in the student's own major performing medium, to enable him most effectively to teach applied music.
496. Music in the Elementary School (5). Pr., Junior standing. Justice
Description given under courses in Elementary Education.

Undergraduate Courses In The Twelve-Grade Program In Teaching, Program, And Student Teaching In Elementary, Secondary, And Agricultural Education

Courses in Teaching for Students Pursuing Areas of Work in Relation to the Total School Program—Twelve Grades

These courses provide for examination, application, and scientific evaluation of methods, techniques, and procedures used in the different areas of the elementary and secondary school program. These will include such activities as resource unit preparation, observation and participation in actual classroom situations, and opportunities for actual participation in using different teaching techniques and procedures.

Students enrolled in Elementary Education whose program of study calls for a minimum of twenty-seven quarter hours of academic work in Art, Industrial Arts, Speech, Health and Physical Education, Music, Dramatic Arts, or Speech Therapy will take the course in Teaching in the area in which the academic work was completed. Students enrolled in Secondary Education are required to take one course in Teaching in both the major and minor areas.

During the summer quarter these courses will be open only to experienced teachers and special students attending either one or both terms and will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class.

414. Teaching in Elementary and Secondary Schools (Major Field) (3). Lec. 2, Lab. 4. Pr., 9 hours Psychology, ED 200 or equivalent; Pr. or coreq., ED 300 or equivalent.

415. Teaching in Elementary and Secondary Schools (Minor Field) (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr. or coreq., ED 300 or equivalent.

(A) Art (Fall, Teaching or Program, Winter)

Young

(B) Dramatic Arts (Fall, Teaching or Program, Winter)

Young

(C) Health and Physical Education (Winter, Spring)

Lapp, Pickett

(D) Industrial Arts (Fall)

Bottoms

(E) Music (Fall, Teaching or Program, Winter)

Justice

(F) Speech (Fall)

Dorné

(G) Speech Therapy (Fall)

Dorné

(Teaching and Program courses will be taught on a unified basis as experience and scheduling permit.)

Courses in Program for Students Pursuing Areas of Work in Relation to the Total School Program—Twelve Grades

These courses provide for making an analysis of the function and purpose of appropriate subject matter in the curriculum including an examination of basic philosophical assumptions and principles which form the basis for the selection and organization of curriculum content in the respective fields.

Students enrolled in Elementary Education whose program of study calls for a minimum of twenty-seven quarter hours of academic work in Art, Industrial Arts, Speech, Health and Physical Education, Music, Dramatic Arts, or Speech Therapy will take the course in Program in the area in which the academic work was completed. Students enrolled in Secondary Education are required to take one course in Program in both the major and minor field.

During the summer quarter these courses will be open only to experienced teachers and special students attending either one or both terms and will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class.

423. Program in Elementary and Secondary Schools (Major Field) (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr. or coreq., ED 300 or equivalent.

424. Program in Elementary and Secondary Schools (Minor Field) (3). Lec. 2, Lab. 2. Pr., 9 hours of Psychology, ED 200 or equivalent; Pr. or coreq., ED 300 or equivalent.

(A) Art (Spring, Program or Teaching, Winter)	Young
(B) Dramatic Arts (Spring, Program or Teaching, Winter)	Young
(C) Health and Physical Education (Fall, Spring)	Lapp, Pickett
(D) Industrial Arts (Spring)	Bottoms
(E) Music (Spring, Program or Teaching, Winter)	Justice
(F) Speech (Winter)	Dorné
(G) Speech Therapy (Winter)	Dorné

(Teaching and Program courses will be taught on unified basis as experience and scheduling permit.)

Student Teaching for Students Pursuing Areas of Work in Relation to the Total School Program—Twelve Grades

These courses provide the student an opportunity to live in a community and receive first-hand experience in teaching. The experiences include personal and professional contacts with the different aspects of community life and making application of concepts, skills, and knowledge of classroom situations.

The courses are organized on the lecture-laboratory basis. Students spend approximately one to two weeks in a lecture situation on the campus before reporting to their student teaching assignment. Eight to nine weeks are spent living in a community and working in the school. Upon completion of the off-campus experience, students return to the campus for one to two weeks for lectures, discussions, and evaluation.

All students participating in student teaching on a total school program basis are required to engage in student teaching and observation at both the elementary and the secondary level. The student should have completed a large part of the work in both the major and minor areas of specialization before doing student teaching.

During the summer quarter these courses will be open only to experienced teachers and special students enrolled for the quarter will be conducted on a seminar basis. The work will be directed and coordinated by one or more instructors in cooperation with contributions made by staff members from the different teaching areas represented in the class. Observation and practice experiences will be provided in keeping with individual and group needs.

425. Student Teaching in Elementary and Secondary Schools. Twelve Grades (10 or 15). Lec. 5, Lab. 20. Pr., 9 hours of Psychology, ED 200 or equivalent; ED 300 or equivalent, two courses in Teaching and Program, and junior or senior standing.

(A) Art	Young
(B) Dramatic Arts	Young
(C) Health and Physical Education	Lapp, Pickett
(D) Industrial Arts	Bottoms
(E) Music	Justice
(F) Speech	Dorné
(G) Speech Therapy	Dorné

Courses In Library Science Serviced By Departments Of Agricultural, Elementary, And Secondary Education

Advanced Undergraduate and Graduate

472. Books and Related Materials for Children (4).

Examination and evaluation of printed and other types of materials in view of their relevance to the needs and interests of various age and grade levels of elementary school children. Study of selection aids, principles, and criteria for selecting materials.

482. Organization and Administration of School Libraries (5). Pr., Junior standing. Staff

Basic organization of books, non-book materials, and services for effective use in school libraries. Administering the budget, selection and purchase of materials, preparation of materials for use, circulation of materials, inventory, care and repair of materials, and instruction in the use of library materials are considered.

484. Classification and Cataloging of School Library Materials (5). Pr., Junior standing. Staff

Principles and procedures of classifying and cataloging books and other printed materials, filmstrips, recordings, and community resources. The vertical file, the Dewey decimal system of classification, Wilson and Library of Congress printed cards, and subject headings are studied.

- AD 485. Audio-Visual Materials (5). Lec. 4, Lab. 2. Winter, Summer. Pr., Junior standing. Deloney, Gandy
Description given under courses in Agricultural Education.
486. Books and Related Materials for Young People (5). Pr., Junior standing. Staff
Study and evaluation of books and other types of materials in relation to the interests, needs, and abilities of young people of high school age. Attention is given to selection aids, principles and criteria of selection, reading guidance, and significant investigations concerning young people's reading.
487. Practicum in School Library Services (6). Lec. 4, Lab. 6. Pr., Junior standing. Staff
The lectures in this course provide students with information pertaining to methods used in the operation of libraries in elementary and secondary schools. Supervised laboratory experiences are provided in materials centers containing a variety of materials for the different grade levels and involving children and youth of varying ages in the public schools.

Graduate

- AD 609. Selecting, Creation, and Use of Audio-Visual Materials (5). Lec. 3, Lab. 4. Pr., AD 485 or consent of instructor. Winter, Summer. Deloney, Gandy
Description given under courses in Agricultural Education.
610. Reference Materials and Service (5). Pr., 10 hours in library science at the 400 level. Staff
Study and evaluation of basic reference sources for effective reference service in school libraries. Elementary research methods of locating information and the role of various types of reference books as resource material in curricular units are considered.
611. Principles of School Librarianship (5). Pr., 10 hours in school library science at the 400 level. Staff
Place and function of library service in the American educational system. Historical development of libraries; library services to teachers and pupils as an integral part of the school program; standards and administrative policies are included.
612. Problems in the Administration of the School Library Services (5). Pr., 10 hours in school library science at the 400 level. Staff
Opportunities for study and research regarding current problems in relation to developing an effective program of school library service. Administrative plans, procedures and relationships; room and equipment planning; library regulations, personnel and committees; reading guidance and reference service; publicity, statistics, and reports; and operation, evaluation, and supervision of library services are potential areas of emphasis.
613. Library Services in the School and Community (5). Pr., 10 hours in library science at the 400 level. Staff
School library-community relations: historical background, current trends, problems and programs of service; relation to public and rural library extension service; selection of materials on the basis of community and curriculum needs; book lists and exhibits.

Graduate Courses In Foundations And Philosophy In
Agricultural, Elementary, And Secondary Education

- AD 601. Social Foundations of Education (5). Winter, Summer. Montgomery
Description given under courses in Agricultural Education.
- AD 604. Adult Education (5). Summer, Winter. Pruett
Description given under courses in Agricultural Education.
635. Education in Modern Society (5). Callaway, Punke
The universal and continuing need for education, various opportunities for learning, the public school and its role for the individual and society, educational purpose and its sources, significance for the curriculum, teaching, learning, and leadership.
636. Philosophy of Education in America (5). Pr., ED 635. Callaway, Punke
Major American contributions to the philosophy of education and their influence on educational practice. Need for re-examining concepts in the light of recent scientific and cultural developments.
637. Development and Status of Educational Philosophy (5). Pr., ED 635. Frymier, Punke
Social and historical development of philosophical thought regarding education, with emphasis on its implications for the Western World. Major philosophical problems facing education today, in the light of the development noted.
639. Comparative Education (5). Pr., ED 635. Frymier, Punke
Comparison of the educational systems of leading foreign nations and the United States, giving attention to the historic origins of the different systems and to their present sociological and philosophical significance.

Graduate Courses In Curriculum And Teaching In Elementary And Secondary Education

Curriculum and Teaching in the Total School Program

These courses are designed to assist teachers, supervisors, guidance personnel, and administrators in developing understandings and competencies essential to total school improvement with attention given to all levels of the school program.

- 645. Current Problems in Education (5).** Pr., Teaching experience. Staff
Emphasis is given to instructional problems of the classroom teacher, and problems associated with administering and supervising the total school program.
- 646. Studies in Education (1-3).** Pr., One quarter of graduate study. Staff
Study of a problem using research techniques. The problem will be selected in consultation with the professor who will supervise it. A problem should be selected which will contribute to the program of the student. (Credit in ED 651 prior to 1960 excludes credit in this course.)
- 647. Foundations in Curriculum and Teaching (5).** Ellisor, Holloway
Historic sources of curriculum and teaching materials reviewed in the light of recent investigations and curricular experiments; conflicting conceptions of the nature of the curriculum and the sociological implications of these conflicts; methods of curricular reorganization in elementary and secondary schools.
- 648. Advanced Study of Curriculum and Teaching (5).** Pr., ED 647 or consent of departmental chairman. Ellisor, Holloway
Major issues, frontier developments, and trends in the improvement of curriculum and teaching in elementary and secondary schools.
- 649. Educational Trends and the Basic Skills (5).** Primarily for elementary and junior high school teachers. Dalton, Callaway
A critical study and evaluation of recent developments in the elementary and junior high school with implications for teaching the basic skills.
- 650. Teaching the Exceptional Child (5).** Corequisite, ED 476. Dorné
Provides for observation and participation under supervision in exceptional education programs. Lectures and discussions will implement the student's work in the classroom. Students will develop and evaluate plans and programs for the special class. (For teachers pursuing a program of education for exceptional children.)

Curriculum and Teaching in the Respective Areas of the School Program

Each of the courses listed below may be used for each area of the school program. The areas include: (A) Art, (B) Business Education, (C) Dramatic Arts, (D) Education for the Exceptional, (E) Foreign Languages, (F) Health and Physical Education, (G) Home Economics Education, (H) Industrial Arts, (I) Language Arts, (J) Mathematics, (K) Music, (L) Science, (M) Social Science, (N) Speech, (O) Speech Therapy.

- 651. Research Studies in Education in Areas of Specialization (5).** Pr., 18 hours of appropriate subject matter and 36 hours of psychology and professional education. Staff
Review, analysis, and interpretation of available research with emphasis on designing new research to meet the changing needs of the school. (Subject areas A-O.)
- 652. Curriculum and Teaching in Areas of Specialization (5).** Pr., 18 hours of appropriate subject matter and 36 hours of psychology and professional education. Staff
A critical study of teaching practices and reappraisal of selecting experiences and content for curriculum improvement. (Subject areas A-O.)
- 653. Organization of Program in Areas of Specialization (2-5).** Pr., 18 hours of appropriate subject matter and 36 hours of psychology and professional education. Staff
Advanced course devoted to a study of program, organization, and development of basic and supplementary materials for guiding teachers, faculties, and school systems in the continuous improvement of curriculum and teaching practices. (Subject areas A-O.)
- 654. Evaluation of Program in Areas of Specialization (2-5).** Pr., 18 hours of appropriate subject matter and 36 hours of psychology and professional education. Staff
Evaluation and investigation of teaching effectiveness with attention also given to the utilization of human and material resources and the coordination of areas of specialization with the total school program and with other educational programs of the community. (Subject areas A-O.)

Curriculum and Teaching with Concentration in the Area of Reading

These courses constitute an area of specialization in the field of reading. ED 471 listed as a prerequisite for ED 656 is designed for the classroom teacher and supervisory personnel. ED 655 may be taken by the classroom teacher and supervisory personnel. ED 656 and 657 will be taken only by persons interested in developing an area of specialization appropriate for consultative and supervisory services.

- 655. Problems in Improvement of Reading (5).** Callaway
An examination of techniques of effective reading instruction in developmental reading from grades one through twelve. Emphasis on techniques, comprehension, study skills, vocabulary, and other related areas in the reading program and in the content areas.
- 656. Directed Individual Study in Reading Diagnosis and Reading Remediation (5-10). Pr., ED 471, or consent of departmental chairman.** Callaway
Clinical experiences in diagnosing problems in reading and related areas. Also clinical experiences in the remediation of reading problems.

Curriculum and Teaching for Advanced Students

These courses are designed to provide opportunity for advanced students to participate in study planning, and field experiences associated with research and experimentation in curriculum and teaching.

- 658. Seminar and Independent Study in Curriculum and Teaching (5). Pr., ED 647 and 648.** Staff
Research and experimentation in elementary and secondary schools in the development of education programs and the improvement of teaching and learning. Appraisal of significant curriculum research, exploration of areas of needed research in curriculum and instruction, and study of fundamental criteria and methods for solving curriculum problems.
- 659-660. Laboratory Experience in Curriculum and Teaching (5-5). Pr., Master's Degree in Education.** Staff
These courses provide for doctoral students to work in actual school situations on problems in curriculum and teaching under staff guidance.

Graduate Course In Higher Education In Elementary And Secondary Education

- 663. The American College and University (5).** Hall, Punke, Frymier
Philosophy and function, the university and social change, the community college, academic freedom, student-faculty-community relationships, international flow of educational ideas, government cultural programs, higher education and the state.

Graduate Courses In Administration, Supervision, And Guidance

Head Professor Pierce

Professor White

Associate Professors Lovell, Vallery

Assistant Professors Nunnery, Saunders, Tinchner

Prerequisites and corequisites in the Department of Administration, Supervision, and Guidance are: experience in teaching; employment or definite professional objectives leading to employment in administration, supervision, or guidance; ED 681, 670 or 621, or equivalent, as prerequisite or corequisite to advanced courses in any one of these specialized areas; and AD 601, PG 614, ED 645 and ED 661, or equivalent, as prerequisite or corequisite to specialized study in administration, supervision, or guidance.

- 618. Organization and Administration of Higher Education (5).** Pierce, Saunders
A course designed to provide a study of the organization, administration, and evaluation of institutions in terms of the academic program, student personnel services, business affairs and related programs.
- 621. Guidance in the Public Schools (5).** Nunnery, Tinchner
A basic course in guidance for superintendents, principals, teachers and other guidance personnel. Among topics covered are: philosophy and principles of guidance, function and services, organizational procedures, administration and evaluation; the role of teachers, administrators and guidance staff.
- 627. Problems in Guidance (5).** Nunnery, Tinchner
A course designed to provide opportunity for guidance personnel to apply the scientific method to the solution of problems arising from their experiences in public schools.
- 628. Counseling in the Public Schools (5).** Nunnery, Tinchner
A course designed to assist teachers and other guidance personnel in acquiring knowledge,

understanding and skill regarding counseling as a helping relationship. Emphasis is given to counseling in the classroom and the information and skills appropriate to counseling.

- 632. Organization and Administration of Guidance Programs (5).** Nunnery, Tincher
A course designed for administrative and guidance personnel. Its primary purpose is to identify the major functions of education, perceive guidance in this perspective and then to study the organization, administration and evaluation of guidance programs in their educational setting. Topics discussed include principles of administrative practice, role of staff in regard to the guidance program, organizational patterns for guidance programs, possible ways of initiating a guidance program, and means of evaluation.
- 633. Analysis of the Individual (5).** Nunnery, Tincher
The purpose of this course is to assist teachers and other guidance personnel in acquiring knowledge, understanding and skill necessary to obtain records and appraise information about the pupil as an individual and as a member of a group. Attention is given to the use of standardized test data; however, primary emphasis is placed on other tools and techniques for securing and analyzing information about pupils and their use in counseling.
- 638. Information Services in the Guidance Program (5).** Nunnery, Tincher
The purpose of this course is to assist guidance personnel in acquiring knowledge, understanding and skill relative to collecting, evaluating and interpreting occupational, educational, and related information for guidance purposes. Emphasis is placed on the value and necessity of work, educational and occupational opportunities, results of recent educational and occupational research, methods of studying occupations, community occupational and educational surveys; orientation for educational and occupational purposes, and maintaining and using occupational and educational information in counseling.
- 670. Supervision of the Instructional Program (5).** Lovell
A course designed to assist superintendents, supervisors, principals, teachers, and other educational leaders in understanding the meaning, purpose and function of supervision, and in understanding the basic factors involved in the improvement of teaching and in understanding and evaluating the various concepts of educational leadership as they apply to the improvement of teaching effectiveness.
- 681. Organization and Administration of Public Education (5).** Saunders
An introductory course designed for superintendents, principals, teachers, and other educational leaders. Topics covered include: purposes of organization and administration; organization and administration on federal, state, and local levels; financial support and accounting; operation of plant; school-community interaction; and personnel administration.
- 683. The Leadership Role in Educational Administration (5).** Lovell, Saunders
A study of current theories, concepts and principles of leadership and their application to education. Further emphasis is placed on the responsibility of the educational administrator for leadership in the school and community, responsibility for leadership in the continuous improvement of staff competence and principles and evaluation of effective leadership.
- 685. Current Trends in Organizing and Administering Public Education (5).** Nunnery, Saunders
A study of current theories, concepts and principles of organization and administration and their application to public education, the relationships of organization and administration to instructional programs; the role and function of governing and regulatory boards and agencies, and an analysis of current problems and issues in organization and administration.
- 688. School Finance and Business Administration (5).** White
A study of the relationships of finance and business management to the quality of education. Emphasis is also placed on theories and principles of school support including responsibility of federal, state and local agencies; state foundation programs, preparation, and administration of salary schedules, budgeting and business administration including purchasing and accounting insurance and bonding.
- 689. Planning and Maintenance of School Buildings (5).** White
A study of the relationships of plant and plant maintenance to the quality of education; an analysis of population growth and distribution as related to building needs, selection of sites, finance programs, problems of building utilization, evaluation, equipment, maintenance and custodial services.
- 690. Administering Auxiliary Services in the Public Schools (5).** White
A study of the purposes and role of auxiliary school services. Special attention is given to the administration of transportation, school lunch, safety, health and medical problems.
- 692. Constitutional, Statutory and Judicial Foundations of Education (5).** White
A study of the constitutional and statutory provisions for education and an analysis of judicial decisions affecting education. Among other topics included are: authority and responsibility of the teacher; rights, privileges and responsibilities of students; use of school property, taxation; curriculum, contracts and retirement provisions; contractual capacity and liability, and transportation.
- 693. Personnel Administration (5).** Nunnery, Tincher
A course designed to assist superintendents, supervisors, principals, and other educational leaders in acquiring knowledge and developing understandings with respect to the rela-

tionships between effective personnel administration and the quality of education. Emphasis is placed on outcomes of recent research and experimentation in areas such as morale, welfare, work loads, pupil accounting, and bases for salary determination as they relate to staff and pupil personnel.

Graduate Courses In Research, Statistics, Thesis, And Dissertation In Administration, Supervision, And Guidance; Agricultural; Elementary; And Secondary Education

661. Research and Experimentation in Education (3 or 5). Staff
Need for the continuous improvement of education through sound solutions to educational problems. The scientific method and its significance for improving education. Methodology in educational research and experimentation.
672. Statistical Methods in Education (5). Staff
The need and importance of applying statistical methods to the study of educational problems, statistical methods appropriate to education, and interpretation of meanings of statistical analyses.
673. Research and Experimental Design (5). Pr., ED 672. Staff
Relationship of design to validity; significance of variables, testing hypotheses, evaluation of research and research findings.
699. Thesis Research (5). May extend beyond one quarter. Staff
799. Doctoral Research and Dissertation (Credit to be arranged). Staff

Electrical Engineering (EE)

Professors Spann, Carlovitz, Honnell, and Weaver
Associate Professors Chadwick, Nichols, Sprague, Sturrock, and Summer
Assistant Professors Feaster, Gillmore, Miller, Phillips, and Slagh
Instructors Green, Golden, Hanley, McKay, Noneaker, and Whitt

202. Electric and Magnetic Circuits I (5). Pr., MH 262 and Coreq., PS 203.
Ohm's and Kirchhoff's Laws; properties of conductors; magnetic circuits and fields; induced E.M.F.; the dielectric circuits.
203. Electric and Magnetic Circuits II (5). Pr., EE 202, MH 263.
Electric and magnetic fields and circuits.
304. Electric Circuits (5). Pr., MH 252 or 263 and PS 203 or 206.
Basic electrical circuits; electric energy rates; characteristics of electrical machinery. For non-electrical engineering students.
305. Electronics and Machinery (5). Pr., EE 202.
Basic electrical and electronic circuits; characteristics of electrical machinery.
307. Illuminating Engineering (5). Pr., junior standing.
The general principles of illumination and photometry.
309. Direct Current Machinery (5). Pr., EE 332 and junior standing.
A detailed study of direct current generators, motors, and control apparatus.
310. Direct Current Laboratory (1). Lab. 3. Corequisite, EE 309.
A laboratory study of the principles discussed in EE 309.
312. Alternating Current Laboratory I (1). Lab. 3. Corequisite, EE 331.
Experiments on circuits studied in EE 331.
316. Electrical Measurements (3). Lec. 2, Lab. 3. Pr., EE 331 and MH 264.
Precision measurements of electrical quantities; instrument errors; polyphase power measurements; ground resistance; circuit protective devices.
320. Electronics (5). Pr., EE 331 and Coreq., EE 321.
Vacuum tube characteristics; gaseous tube characteristics; vacuum and gaseous control circuits applied to industrial problems; rectification circuits.
321. Electronics Laboratory (1). Lab. 3. Corequisite, EE 320.
A laboratory course to illustrate the subjects discussed in EE 320.
331. Circuit Analysis I (5). Pr., EE 203 and MH 264 and junior standing.
AC circuit analysis; vector representation; network theorems; Fourier series and Fourier integral analysis.
332. Circuit Analysis II (5). Pr., EE 331, MH 361 and junior standing.
Transient and complex plane frequency analysis; Laplace Transformation; coupled circuits.
333. Circuit Analysis III (5). Pr., EE 332, MH 402 and junior standing.
Networks and filters; balanced and unbalanced polyphase circuits.

- 340. Communications Engineering I (5).** Pr., EE 332 and EE 320.
Analysis of electron-tube circuits, tuned and untuned, with an introduction to pulse circuit techniques.
- 341. Communications Engineering Laboratory I (1).** Lab. 3. Corequisite, EE 340.
Experiments on circuits studied in EE 340.
- 402. Alternating Current Machinery I (5).** Pr., EE 332 and junior standing.
Transformers, induction motors, and other apparatus.
- 403. Alternating Current Laboratory II (1).** Lab. 3. Pr., junior standing; Coreq., EE 402.
Laboratory exercises to study transformers, induction motors, transmission lines, voltage regulators, and symmetrical components.
- 404. Telephone Engineering (5).** Lec. 4, Lab. 3. Pr., EE 331 and junior standing.
Telephone circuits and equipment with suitable laboratory experiments.
- 405. Electric Power Systems (5).** Pr., EE 402 and junior standing.
A general study of generating stations and substations; stability of power systems.
- 406. Symmetrical Components (5).** Pr., EE 333 and junior standing.
The solution of unbalanced polyphase circuits or balanced circuits with unbalanced terminal voltages.
- 408. Advanced Alternating Current Circuits II (5).** Pr., EE 331 and MH 361 and junior standing.
Network theorems and analysis, filters, non-linear circuits, and electro-mechanical analogies.
- 410. Power Transmission Lines (5).** Pr., EE 333, MH 402 and junior standing.
A general discussion of power transmission lines.
- 413. Alternating Current Machinery II (5).** Pr., EE 333 and junior standing.
Alternating current generators and synchronous motors.
- 414. Alternating Current Laboratory III (2).** Lec. 1, Lab. 3. Pr., junior standing; Coreq., EE 413.
Laboratory exercises to study characteristics of alternators, synchronous motors, their controls and system operation.
- 430. Radio Transmission Lines (5).** Pr., EE 332, MH 402, and junior standing.
Theory of high frequency transmission lines and filters.
- 431. Antenna Systems (5).** Pr., EE 430, EE 450 and junior standing.
Impedance matching, theory of antennas, radio wave propagation.
- 433. Frequency Modulation (5).** Pr., EE 448, MH 361 and junior standing.
Frequency modulation transmitters and receivers.
- 438. Advanced Ultra-High Frequency Circuits (5).** Lec. 4, Lab. 3. Pr., EE 450, EE 430 and junior standing.
Ultra-high frequency oscillators, slotted lines, horn reflectors; the klystron and magnetron.
- 439. Electric Waves (5).** Pr., EE 448, MH 402 and junior standing.
Advanced mathematical analysis of electric and magnetic fields.
- 440. Television Engineering (5).** Pr., EE 448 and junior standing.
Cathode ray tubes and circuits; wide-band amplifiers; television receivers and transmitters; color television.
- 441. Radio Frequency Measurements (3).** Lec. 2, Lab. 3. Pr., junior standing; Coreq., EE 448.
Measurement of circuit constants at radio frequencies; frequency, antenna, and field strength measurements; voltage, current, and power at radio frequencies.
- 442. Industrial Electronics and Control Circuits (5).** Lec. 4, Lab. 3. Pr., EE 320 and junior standing; Coreq., EE 333.
Electrical circuits for industrial applications; methods for automatic control and regulation with an introduction to principles and analysis of servomechanisms.
- 443. Transistor Electronics (5).** Lec. 4, Lab. 3. Pr., EE 448, MH 402 and junior standing.
Transistor theory and physical concepts; characteristics; applications in electronic circuits (audio, video, and radio frequencies); control circuit applications; advantages and disadvantages of transistors for several different types of general problems. The laboratory stresses transistor fundamentals and design of circuits involving transistors.
- 444. Fundamentals of Digital Computers (5).** Pr., EE 320 and junior standing.
A study of digital techniques; application of number systems to electronic circuits and electrical devices.

445. **Nuclear Instrumentation (5).** Lec. 4, Lab. 3. Pr., EE 320, EE 333 and junior standing.
A study of the electrical engineering aspects of reactor control and nuclear instrumentation.
448. **Communications Engineering II (5).** Pr., EE 340, MH 402, and junior standing.
Radio frequency circuit theory and applications.
449. **Communications Engineering Laboratory II (1).** Lab. 3. Pr., junior standing; Coreq., EE 448.
Experiments on circuits studied in EE 448.
450. **Applied Electromagnetism (5).** Pr., EE 332, MH 402 and junior standing.
Vector analysis, basic laws and equations of electromagnetism, development of Maxwell's equations, wave propagation and reflection.
451. **Communications Engineering Laboratory III (1).** Lab. 3. Pr., junior standing; Coreq., EE 430.
Experiments on circuits studied in EE 430.
453. **Communications Engineering Laboratory IV (1).** Lab. 3. Pr., EE 430, EE 450, and junior standing; Coreq., EE 431.
Experiments on circuits studied in EE 431.

GRADUATE COURSES

610. **Power System Stability (5).**
Solution of networks, general and faulted three-phase; fault clearing, power circuit breakers and protection relays; the stability problem.
611. **Protection of Transmission Systems Against Lightning (5).**
The mechanism of lightning; voltage on transmission lines caused by lightning; protection of transmission lines, transformers, rotating machines and other equipment.
612. **Design of Electrical Apparatus (5).**
Design of direct current machines, synchronous machines, induction motors, transformers.
613. **Power Transmission Lines (5).**
Advanced theory of design of power transmission lines; electrical and mechanical principles and theory; sag and stress calculations and similar topics.
614. **Transients in Linear Systems (5).**
Study of circuit and field problems in electrical, mechanical, thermal, and acoustical systems which permit linear treatment; mathematical studies using Laplace transformation; necessary background material in complex variable theory.
615. **Advanced Electrical Measurements (5).** Lec. 3, Lab. 6.
Study of technique involved in measurement of circuit parameters, current, voltage, power, frequency and wave form at both low and high frequencies; familiarization of student with all available types of electrical measurement equipment, their capabilities and limitations.
616. **Advanced Ultra-High Frequency Circuits (5).**
Theory and application of wave guides, cavity resonators, matching and coupling elements; principle of microwave network design.
617. **Principles of Pulse Circuits (5).** Lec. 4, Lab. 3.
Analysis and design of basic types of pulse forming circuits, with applications to radar, television, pulse-modulation systems, and laboratory instrumentation; laboratory experiments upon basic circuits studied with laboratory work suited to the individual student's needs.
618. **Servomechanisms (5).** Lec. 4, Lab. 3.
A study of servomechanism control systems and feedback amplifiers. The study includes both the transient response and frequency spectrum types of analysis as applied to the stability problem. Applications to practical feedback systems will be analyzed.
620. **Network Theory (5).**
General study of synthesis of networks.
621. **Electronic Computer Theory (5).**
General study of computer components such as operational amplifiers, integrating amplifiers, function generators and stabilized power supplies. Computer techniques including arithmetic systems, pulse circuits, memory storing devices and associated topics.
690. **Seminar.** Credit to be arranged. May be taken more than one quarter.
699. **Research and Thesis.** Credit to be arranged. May be taken more than one quarter.

Engineering Graphics (EG)

Professor Francis

Associate Professors Collins, Little and McClung

Assistant Professors Ball, Ingram, Klepinger and Mitchell

Instructors Johnson, H. Jones, T. Jones, McGarr, Stewart and Williams

The Department of Engineering Graphics is a service department to the School of Engineering. However, the courses offered in this department may also be taken by the students in other schools who desire to receive such information on graphic subjects useful in their particular field.

The courses as given below for the first year students are designed to give the theory and practice in Engineering Drawing and Descriptive Geometry serving as fundamental subjects in all engineering curricula. Those to be given as second year courses furnish not only the theory of graphical solution of engineering problems, but prepare the student for more advanced courses such as Applied Mechanics, Strength of Materials, and Machine Design.

This department has well-illuminated drawing rooms with adequate illumination for night work. A model making shop is equipped with necessary tools and machines to make models for class room use. The department also has up to date printing equipment for ozalid prints, and a Thermo-Fax machine for photographic prints.

102. Engineering Drawing I (2). Lab. 6. Pr., Plane Geometry.

Use of instruments; lettering practice; geometric constructions; principle views in projection; auxiliary and section views; dimensioning; detail working drawings; and isometric projection.

104. Descriptive Geometry (2). Lab. 6. Pr., EG 102 and Solid Geometry.

Basic principles pertaining to points, lines, and planes; including problems on sections, developments, and intersections of solids.

105. Engineering Drawing II (2). Lab. 6. Pr., EG 102.

Technical sketching; reading analysis of shop drawings; machine parts, detail and assembly drawings; types and arrangement of materials; titles and symbols; tracings, printing, and other reproduction methods; steel and timber structures, riveting and welding.

204. Kinematics of Machines (3). Lec. 2, Lab. 3. Pr., EG 104, EG 105, and coreq., PS 201.

A study and graphical analysis of the fundamental elements of machines, including: definitions, velocity and acceleration diagrams, methods of transmission of motion by links, cams, gears, gear trains, and flexible connectors.

205. Applied Graphic Statics (2). Lec. 1, Lab. 3. Pr., EG 105 and coreq., PS 201.

Resultants and equilibrium of concurrent, parallel and non-parallel forces; moments of parallel forces; general cases of reaction of coplanar forces; stresses in simple trusses by joint and section methods; cranes, derricks, dredges, and frames with bending members; static forces in machines with and without friction.

404. Advanced Engineering Graphics (2). Pr., EG 205, ME 305, and junior standing.

Moments of non-parallel coplanar forces, shear and moment diagrams for concentrated and distributed loads; deflection of beams, influence diagrams; special trusses; combined analytic and graphic methods applied to frames with bending members; concurrent, parallel, and non-parallel forces in space; static forces in machines with and without friction, centroids and moment of inertia.

GRADUATE COURSES

608. Advanced Mechanics of Machinery (5). Winter. Pr., ME 303 and ME 307. Sahag
Advanced study of velocities and acceleration by relative velocity and acceleration methods; static and dynamic forces in machine parts; balancing of machine parts.

610. Advanced Charts and Diagrams (5). Spring. Pr., EG 204. Francis or Little
Graphics and algebraic equations, graphical calculus, sliding scale, network charts, empirical equations, cartographs.

612. Design of Jigs and Fixtures (5). Lec. 3, Lab. 6. Spring. Collins
Study of accepted types of jigs, fixtures and dies; production rates, expense and savings, automatic tooling design, indexing operations.

620. Patents (5). Winter. Little
Patentability, claims, patent office procedures, foreign patents, role of patent attorney, patent drawings, sale and exploitation of patents.

621. Design of Materials Handling Equipment (5). Lec. 3, Lab. 6. Pr., ME 303 and ME 401. Sahag
Design of belt and chain conveyors, elevators, screw conveyors, and hoists; conveyor systems for assembly, repair, and power plants.

English (EH)*Head Professor Patrick**Professors Brittin, Current-Garcia, Gosser, Haines, and McCann**Associate Professors Amacher, Benson, Breyer, Burnett, Hoepfner, Malone*, Moore, and Woodall**Assistant Professors Butler, Carruth, Faulk, Hauser, Jones, Kaminsky, Littleton, McLeod, Melzer**, Miller**, Polhemus, Strong, and Stroud**Instructors Baker, Burnett, Cheney, Clanton, Geyer, Humphrey, Johnson, Lehmann, Payne, Robinson, Sewell, and Simpson**Graduate Assistants Adams, Alger, Barnett, Breyer, Crabtree, Geyer, Hall, Holladay, Holloway, Hortman, Lawson, McDonald, Mitchell, Molaison, and Register*

English 101-2 or 103-4 is required of all freshmen and is a prerequisite for all other courses in English. Students whose scores on the placement tests are sufficiently high will register for English 103-4. Those whose scores indicate a serious deficiency in grammar and composition will register for English 010. All others will register for English 101.

At least one quarter of literature is a prerequisite for all five-hour courses numbered 300 and above.

In addition to the regulations governing the major in the School of Science and Literature as stated on page 178, these additional requirements apply to the English major:

1. The major will take a fourth quarter of foreign language and History 472 as two of the five-hour electives.

2. Two of the following three courses are required of the English major: EH 390, 401, and 441.

3. A student majoring in English should report to the English office to be assigned a major professor who will regularly counsel the student in his program of study.

1010. Remedial English (5 hrs. lec.—non-credit). All quarters.

A remedial course in the fundamentals of grammar and composition.

101-2. English Composition (5-5). EH 101 pr. for EH 102. All quarters.

A course in the essentials of grammar, composition, and reading.

103-4. English Composition for Superior Students (5-5). All quarters.

Reading and composition for superior students.

107. Introduction to Literature (3). Pr., EH 101-2 or 103-4. All quarters.

Reading and discussion of a variety of important literary works selected for their relevance to humanistic problems of the modern age.

108. Classical Literature (5). Pr., EH 101-2 or 103-4. All quarters.

The reading and discussion of significant works of classical Greek and Roman literature with emphasis on the western heritage of ancient thought. Not open to students with credit in EH 107.

141. Medical Vocabulary (5). Pr., EH 101-2 or 103-4. All quarters.

Gosser

A course dealing with prefixes, suffixes, and the more common root words of medical terminology.

208. Literature of the Western World (3). General Elective. Pr., EH 101-2 or 103-4, and EH 107 or 108. All quarters.

The study of about eight significant literary works of the Western World which provide representative views of man in the Medieval, Renaissance-Reformation, and Eighteenth Century periods.

241. Scientific Terminology (5). Spring.

Gosser

A study of word parts in the terminologies used in the medical, natural, and physical sciences. As far as is practicable, each student's work is channelled in the direction of his special needs.

253. Literature in English (5). All quarters.

A study of the literature of England from 1400 to 1800.

254. Literature in English (5). All quarters. Pr., EH 253.

A study of English and American literature of the nineteenth and twentieth centuries.

301. Creative Writing (3). General elective. Fall, Spring.

Jones

A course devoted principally to the writing and criticizing of short stories. But the student may be permitted to write poetry, drama, or any other form of imaginative literature.

* Temporary.

** On Leave.

302. **Creative Writing (3).** General elective. Fall, Spring. Jones
A continuation of English 301.
304. **Technical Writing (3).** All quarters. McCann and Staff
Not open to students with credit in EH 345. Report writing for engineers.
310. **Word Study (3).** General elective. Fall, Spring.
A study of the history of English words and their meanings with the object of improving the student's command of his language and illustrating for him some of the patterns in the development of human thought.
320. **An Introduction to Drama (3).** General elective. Winter. Hoepfner
Representative tragedies and comedies of Europe from antiquity to the present. Such figures as Sophocles, Moliere, Sheakespeare, and Ibsen will be considered.
345. **Business and Professional Writing (5).** All quarters. Staff
A course in practical composition including abstracting, correspondence, and reports for students in business administration and pre-professional science.
NOT OPEN TO ENGLISH MAJORS OR MINORS. Students cannot earn credit in this course and also in EH 304.
350. **Shakespeare's Greatest Plays (3).** General elective. Fall. Not open to students with credit in EH 451-2. Hoepfner
A study of some of Shakespeare's masterpieces.
352. **Contemporary Fiction (5).** Fall. Benson
American and British novelists from Lawrence to Faulkner.
353. **Contemporary Drama (5).** Spring. Amacher
Continental, British, and American dramatists from Ibsen to the present day.
355. **Masterpieces of World Literature (3).** General elective. Winter. Malone
357. **Survey of American Literature (5).** Fall, Spring. Current-Garcia, Patrick
American literature from the beginning to 1860.
358. **Survey of American Literature (5).** Winter, Summer. Current-Garcia, Patrick
American literature from 1860 to the present.
360. **Continental Fiction (3).** General elective. Winter. Malone
A study of representative European short stories and novels.
361. **History of English Drama (5).** Spring. Hoepfner
English drama from the medieval period to 1900.
363. **Eighteenth Century English Literature (5).** Fall. McCann
A survey of poetry and prose from Dryden through Shenstone.
364. **Eighteenth Century English Literature (5).** Spring. McCann
Survey of poetry and prose from Johnson through Blake.
365. **Southern Literature (3).** General elective. Spring. Current-Garcia, Patrick
368. **Folk-lore and the Ballad (3).** General elective. Winter. Hoepfner
A study of the folk-lore and ballad tradition.
371. **The American Short Story (5).** Winter. Current-Garcia, Patrick
The development of the American short story from the beginning to the present.
372. **The American Novel (5).** Fall. Current-Garcia, Patrick
The development of the American novel from the beginning to 1900.
381. **The Literature of the Age of Reason (3).** General elective. Fall. Amacher
A study of rationalism, its assumptions and effects, political, social, and scientific as seen in the works of such major eighteenth-century writers as Locke, Johnson, Burke, Voltaire, and Rousseau.
385. **The Impact of Science and Technology upon Modern Literature (3).** General elective. Winter. Amacher
An investigation of a few major 19th and 20th century writers who reflect in their works the impact of scientific theory and methodology upon traditional, cultural, and philosophical values.
390. **Advanced Composition (5).** All quarters. Faulk
The practice and theory of expository writing; the command of language for the clear and forceful communication of ideas.
401. **Advanced English Grammar (5).** Fall, Spring. Pr., junior standing. Haines
A study of both formal and functional grammar.
410. **European Literature (5).** Fall. Pr., junior standing. Malone
A survey of the principal European literary figures and trends from the Renaissance to the present, with emphasis on the literature of Italy, France and Germany.

441. **Introduction to the Study of the English Language (5).** Winter, Summer. Pr., junior standing. **Gosser**
An introductory course intended to familiarize the student with such various aspects of language study as phonetics, spelling, syntax, parts of speech, etymology, sound changes, dialect, and the development of handwriting.
450. **Contemporary Poetry (5).** Winter. Pr., junior standing. **Benson**
The chief modern poets of England and America.
- 451-2. **Shakespeare (5-5).** Winter, Spring. Pr., junior standing. **Brittin**
The first quarter deals with the plays written before 1600, emphasizing comedies; the second, with the plays written after 1600, stressing tragedies.
Credit for either or both of these courses excludes credit for EH 350.
456. **English Romantic Movement (5).** Fall. Pr., junior standing. **Breyer**
An intensive study of three of the poets in the English Romantic Movement, with some attention to the essayists and other figures.
457. **Victorian Literature (5).** Spring. Pr., junior standing. **Woodall**
The major poets and non-fiction writers from 1830 to 1890.
459. **Poetry and Prose of the Elizabethan Period (5).** Winter. Pr., junior standing. **Moore**
A survey of the non-dramatic literature of the Elizabethan Period.
- 481-2. **English Novel (5-5).** Fall, Spring. Pr., junior standing. **Breyer, Brittin**
The first quarter provides a survey of the development of fiction from the Greek Romances down through the Renaissance and then concentrates on the great English novelists of the 18th Century. The second quarter provides a survey of the English novel from Jane Austin to Thomas Hardy.
491. **American Poetry (5).** Summer. Pr., junior standing. **Current-Garcia**
A study of the major American poets from the Colonial period to 1920.

GRADUATE COURSES

610. **Introduction to Graduate Study in English (5).** Winter. **Woodall**
Theory and methodology in the study of language and literature. This course is required of all graduate English majors.
- 611-12. **Studies in the History and Interpretation of Literature (5-5).** Summer.
Designed for the secondary school teacher of literature, this course emphasizes the study of literature by types and by historical periods. The first term, dealing with the English literature of the Pre-Renaissance, Renaissance, and Post-Renaissance periods, concentrates on poetry, drama, and the essay. The second term, dealing with English literature of the nineteenth century and with American literature of the eighteenth and nineteenth centuries, concentrates on fiction, history, and biography.
615. **English Literature of the Earlier Seventeenth Century (5).** Winter. (Offered in alternate years). **Haines**
The intellectual setting and the chief issues in the works of Bacon, Burton, Milton, Browne, Hobbes, and Bunyan will be studied in the first six weeks; in the second, the poets from Donne to Butler.
- 616-17. **Studies in the American Language (5-5).** Summer.
The first term deals primarily with the history and theory of the American language; the second deals with the analytical description of the grammar of the language. Both courses are designed to provide the secondary school teacher with a background of linguistic principles and an understanding of them that can be applied to the teaching of reading and writing.
620. **Twentieth Century Writers (5).** Spring. **Benson**
An intensive study of the works of two or three major British and American writers. Ordinarily the course will be devoted to either novelists or poets.
630. **Medieval Literature (5).** Spring. **Moore**
A survey of the various types of medieval English literature from 1200 to 1500 in the first six weeks; in the second, the development of the drama from the ninth-century *Quem quaeritis* to the English interlude. The literature is read in translation.
641. **Old English (5).** Fall. **Gosser**
An elementary study of the language and literature of the English people before the Norman Conquest.
- 651-2. **Studies in American Literature (5-5).** 651, Fall; 652, Summer. **Current-Garcia, Patrick**
An intensive study of the works of two or three major American writers both as literature and as a reflection of American civilization and thought.
654. **Elizabethan and Jacobean Drama (5-5).** Fall. **Brittin, Haines**
Alternately this course treats the dramatic works of Shakespeare and Elizabethan drama exclusive of Shakespeare. A maximum of ten hours of credit may be earned. (Jacobean drama in 1957-58.)

655. **English Literature of the Eighteenth Century (5). Winter.** McCann
The principal writers from Dryden to Blake with some reference to the intellectual, social and political trends of their age.
657. **Studies in English Literature in the Nineteenth Century (5). Winter.** Breyer
A study in alternate quarters, of selected Victorian prose writers and Victorian poets.
661. **Chaucer (5). Spring.** Gosser
A study of the works with special attention to *The Canterbury Tales* and *Troilus and Criseyde*.
662. **Milton (5). Winter. (Offered in alternate years).** Haines
A study of the poems and representative prose works, focusing on *Paradise Lost*.
680. **History of Literary Criticism (5). Spring.** Malone
A survey of major critics of western literature from Aristotle to the present.
699. **Research and Thesis. Credit to be arranged.** Graduate Staff

Foreign Languages (FL)

Professor Skelton

Assistant Professors Eldredge, Hamilton^{°°}, and Ikenberry

Instructors Helmke, E. D. Holt[°], and J. M. Holt[°]

The Department of Foreign Languages offers elementary, intermediate, and advanced courses designed to acquaint the student with the structure of the language and to develop in him some facility in the actual use of the language through a combined conversational and reading approach. At an early level the student is introduced through the foreign language to the background, history, and the civilization of the speakers of that language. The upper levels are devoted to fostering an understanding and an appreciation of the respective literatures.

A minor in most cases involves the completion of FL 322, 332, or 352. A major in foreign languages requires the completion of seven courses above the one hundred level. These courses may be taken in two or more different languages. Students who contemplate working toward either a major or minor in Foreign Languages should consult with the Head Professor.

Students who have completed two or more years of a foreign language in high school should continue that language on the intermediate level. College credit is not granted for an elementary course when the student has pursued that language two years in high school.

French

121. **Elementary French (5).**
The aim of this course is to give the student the fundamentals of the French language together with as much simple reading as time will permit. Constant stress will be placed on oral and aural practice, with special emphasis on idiomatic expressions.
122. **Elementary French (5). Pr., FL 121 or equivalent.**
A continuation of FL 121.
221. **Intermediate French (5). Pr., FL 122 or equivalent.**
Designed to acquaint the student with the background and the civilization of France and at the same time provide practice in reading current French. Special emphasis is placed on the acquisition of vocabulary and on oral practice.
222. **Intermediate French (5). Pr., FL 221 or equivalent.**
An introduction to French literature. Representative works of moderate difficulty and high literary value will be read. Oral practice will be continued.
321. **Advanced French (5). Pr., FL 222 or equivalent.**
Outstanding prose works, especially short stories and novels. Continued emphasis on vocabulary building and oral practice.
322. **Advanced French (5). Pr., FL 222 or equivalent.**
French drama and poetry. Representative works of Racine, Moliere, or Corneille in the field of drama will be read together with selected poems from the Pleiade to the moderns.
421. **History of French Literature (5). Pr., FL 222 or equivalent.**
The main developments of French literature from the *Chansons de geste* through Humanism, Romanticism, Symbolism and Realism to the contemporary movements.
422. **History of the French Language (5). Pr., FL 222 or equivalent.**
The external development of the French language from the Celtic substratum through the Germanic migrations, the Renaissance, and down to modern times.

[°] Temporary.

^{°°} On Leave.

Spanish

131. Elementary Spanish (5).
Corresponds to FL 121.
132. Elementary Spanish (5). FL 131 or equivalent.
Corresponds to FL 122.
231. Intermediate Spanish (5). Pr., FL 132 or equivalent.
Corresponds to FL 221.
232. Intermediate Spanish (5). Pr., FL 231 or equivalent.
Corresponds to FL 222.
331. Advanced Spanish (5). Pr., FL 232 or equivalent.
Corresponds to FL 321.
332. Advanced Spanish (5). Pr., FL 232 or equivalent.
Spanish drama and lyric poetry. Representative works of Lope de Vega, Calderon, and Echegaray in the field of drama will be read together with selected poems from Becquer, Campoamor, Ruben Dario, etc.
431. History of Spanish Literature (5). Pr., FL 232 or equivalent.
The main developments of Spanish literature from the Poema del mio Cid through the Golden Age, Barroquismo, and Realismo to the moderns.
432. History of Spanish Language (5). Pr., FL 232 or equivalent.
The external development of the Spanish language from Roman times through the Visigothic and Moorish empires, the Renacimiento, and the Age of Discovery.

German

151. Elementary German (5).
Corresponds to FL 121.
152. Elementary German (5). Pr., FL 151 or equivalent.
Corresponds to FL 122.
251. Intermediate German (5). Pr., FL 152 or equivalent.
Corresponds to FL 221.
252. Intermediate German (5). Pr., FL 251 or equivalent.
Corresponds to FL 222.
351. Advanced German (5). Pr., FL 252 or equivalent.
Corresponds to FL 321.
352. Advanced German (5). Pr., FL 252 or equivalent.
German drama and lyric poetry. Representative works of Goethe, Schiller, and Lessing in the field of drama will be read together with selected poems from Heine, Klopstock, Herder, etc.
451. History of German Literature (5). Pr., FL 252 or equivalent.
The main developments of German literature from the beginnings through the Ritterzeit, Reformation, Klassik, and Romantik Realismus.
452. History of the German Language (5). Pr., FL 252 or equivalent.
The place of Germanic in the Indo-European family, the relation of West Germanic to Gothic and Old Norse, and the connections between German and English.

Italian

241. Elementary Italian (5). Pr., Permission of the instructor.
The fundamentals of the Italian language with readings in the development and civilization of Italy.
242. Elementary Italian (5). Pr., FL 241 or equivalent.
A continuation of FL 241.
341. Intermediate Italian (5). Pr., 242 or equivalent.
Selected readings in Italian literature.

Portuguese

261. Elementary Portuguese (5). Pr., Permission of the instructor.
The fundamentals of Brazilian Portuguese with readings in the development of Luso-Brazilian civilization.
262. Elementary Portuguese (5). Pr., FL 261 or equivalent.
A continuation of FL 261.
361. Intermediate Portuguese (5). Pr., FL 262 or equivalent.
Selected readings in Luso-Brazilian literature.

Russian

171. **Elementary Russian (5).**
Corresponds to FL 121.
172. **Elementary Russian (5).**
Corresponds to FL 122.
271. **Intermediate Russian (5).**
Corresponds to FL 221.

Forestry (FY)*

Professors DeVall, Christen, and Hodgkins
Associate Professors Becking, Johnson, and Posey
Assistant Professor Larsen
Instructors Teate and White

- 102-3. **Introduction to Forestry (1-1). Lec. 1. Fall, Winter.**
An orientation course for freshman students covering all subject matter fields in professional forestry as well as curriculum requirements and related academic relationships.
104. **Forest Cartography (2). Lab. 6.**
Introduction to the use of drafting instruments, engineering lettering, conventional map signs and symbols and application to planimetric and topographic maps, map design and grids.
- 201-2. **Dendrology (3-3). Lec. 1, Lab. 6. Fall, Winter. Pr., BY 202, or permission of instructor. Coreq., FY 104.**
A course dealing with the identification, taxonomic, and ecological characteristics, and the distribution of important forest trees of the U.S.A. One quarter devoted to Angiosperms and one quarter to Gymnosperms.
203. **Silvics (5). Lec. 3, Lab. 6. Spring. Pr., AY 305, BY 306, FY 202.**
The influence of site factors on the reproduction, growth, development, and characteristics of forest vegetation and the effect of forest cover on the site. The classification of forest vegetation.
204. **Forest Mensuration (5). Lec. 3, Lab. 6. Spring. Pr., FY 202, CE 201.**
A course dealing with the methods and equipment used in measuring and computing the size, growth, and volume of trees and stands; units and volume of products; the preparation and use of volume and yield tables; principles of sampling as applied to timber estimates.
301. **Silviculture (5). Lec. 3, Lab. 6. Fall. Pr., FY 392.**
Methods of cutting for reproduction and stand improvement. Methods of slash disposal; silvicultural plans.
302. **Forest Fire Control (3). Lec. 2, Lab. 3. Winter. Pr., junior standing.**
A course covering the important phases of forest fire protection, including organization, administration of the program, and detection and suppression of fires. Transportation, communications, and the operation, repair and maintenance of forest fire equipment. Public relations problems.
307. **Tools of Wood-Working Industries (3). Lec. 1, Lab. 6. Winter. Pr., junior standing.**
The character and use of the principal tools, both hand and machine, employed in wood-using industries.
310. **Advanced Mensuration (3). Lec. 2, Lab. 3. Winter. Pr., FY 390.**
Statistical and mensurational methods. Preparation and interpretation of stand, stock, and yield tables; determination of site quality.
311. **Wood Technology I (5). Lec. 3, Lab. 6. Fall. Pr., FY 202.**
Identification of commercial woods of the United States by microscopic and macroscopic features. Study of the structure of woods.
313. **Farm Forestry (5). Lec. 3, Lab. 4. Fall, Winter. Pr., sophomore standing.**
(Not open to students in the degree Forestry curricula.) The place of farm forests in agricultural economy. The application of forestry principles to the problems of the farm woodland, especially as they relate to Alabama conditions.
315. **Seeding and Planting (3). Lec. 2, Lab. 3. Spring. Pr., FY 301.**
The theory and practice of seed collection, germination, seeding, and planting of forest trees in the nursery and in the field.
316. **Forest Economics (3). Lec. 3. Spring. Pr., junior standing or permission of instructor.**
Fundamentals of economics as applied to the business of forestry. Supply, demand and price relationships and predictions for the future. Input-output relationship in production.

* The prerequisites may be waived, by permission of the instructor concerned, for junior and senior students in other departments.

390. **Field Mensuration (5).** Lec. 1, Lab. 12. Summer. Pr., FY 204.
Practical experience in timber cruising and field application of forest mensuration principles.
391. **Forest Engineering (5).** Lec. 1, Lab. 12. Summer. Pr., CE 201.
Surveying and mapping forest properties.
392. **Forest Ecology (3).** Lec. 1, Lab. 6. Summer. Pr., FY 203.
Field study of the biotic and edaphic factors that affect the growth and development of forest stands. A study of natural plant succession in the Piedmont of Alabama.
393. **Alabama Forest Industries (3).** Lec. 1, Lab. 6. Summer.
Inspection of pulp and paper mills, of wood preservation plants, sawmills, furniture factories, cooperage and plywood factories.
396. **Forest Site Evaluation (2).** Lec. 1, Lab. 3. Summer. Pr., FY 203.
Field training in quantitative evaluation of the productivity of forest sites on the basis of soil properties.
402. **Range and Game Management (5).** Lec. 5. Spring. Pr., FY 392.
Principles of range and game management as applied to forest properties.
405. **Lumber Grading (3).** Lec. 2, Lab. 3. Fall. Pr., FY 308.
The theory and practice of lumber grading, including hardwoods and softwoods; yard, structural and factory grades.
407. **Forest Management (5).** Lec. 5. Winter. Pr., FY 301 and junior standing.
Organization and administration of forest properties; theory of working plans; regulation of cuts; cutting cycles and rotations.
408. **Logging (3).** Lec. 2, Lab. 3. Fall. Pr., FY 301.
A study of logging methods and field practice in the use of logging equipment.
414. **Regional Silviculture (3).** Lec. 3. Winter. Pr., FY 301 and junior standing.
A study of the value, growth, stands, species, and problems of forestry in the South, especially Alabama, as compared to other states and regions.
417. **Photogrammetry (5).** Lec. 3, Lab. 6. Fall, Winter. Pr., FY 390 and junior standing.
The use of aerial photographs in Forestry. Particular emphasis is placed on specifications for forestry photographs, basic map control, planimetric mapping, form-line mapping, timber type mapping and timber volume estimation.
418. **Advanced Forest Management (3).** Lec. 1, Lab. 6. Spring. Pr., FY 407 and junior standing.
Review of steps and procedures in preparation of management plans; preparation of management plans for selected areas.
421. **Forest Research Methods (3).** Lec. 2, Lab. 3. Spring. Pr., junior standing.
Review of statistical and sampling methods. Experimental design and analysis of data.
424. **Cost Control and Integrated Utilization (3).** Lec. 3. Winter. Pr., FY 426, FY 408 and junior standing.
A study of the various factors which affect logging cost and the value of the product. Special emphasis is given to the problem of determining the best market for each size and grade of material when various markets such as pulpwood, sawlogs, poles, pilings, cross-ties, and veneer bolts are available at different distances from the logging operation.
425. **Wood Gluing and Lamination (5).** Lec. 3, Lab. 6. Fall. Coreq. FY 311, Pr., PS 205 and junior standing.
Types and characteristics of woodworking glues. The theory, design, and manufacture of laminates and other glued products. The student will be introduced to research techniques and procedures by pursuing a specific study that will culminate in a comprehensive report.
427. **Forest Valuation (5).** Lec. 5. Fall. Pr., EC 200, FY 204, and junior standing.
Bases and methods of determining the value of stumpage and land. Calculation of taxes on and damages to a forest enterprise. Principles of insurance as applied to a forest enterprise. Computation of financial maturity of trees and stands.
429. **Forest Tree Nursery Management (3).** Lec. 2, Lab. 3. Spring. Pr., FY 315 and junior standing.
Principles and practices applicable to the operation of a commercial forest tree nursery. Soil Management techniques directly related to seedling quality will be stressed.
430. **Wood Technology II (5).** Lec. 3, Lab. 6. Winter. Pr., FY 311, CH 203, PS 205, and junior standing.
Physical and chemical nature of wood substances: wood-liquid relations, thermal and electrical properties, chemical processing of wood.
431. **Wood Technology III (5).** Lec. 3, Lab. 6. Spring. Pr., FY 311, PS 205, and junior standing.
Mechanical properties of wood, factors affecting the strength of wood, principles used in design of wood structures.

- 432. Seasoning and Preservation of Wood (5).** Lec. 5. Winter. Pr., FY 311 and junior standing.
Principles and practices of seasoning and impregnation of wood, study of wood destroying agents.
- 433. Seasoning and Preservation Laboratory (2).** Lab. 6. Spring. Pr., FY 432 and junior standing.
Required for wood technology majors only. Laboratory study of techniques and equipment used in the seasoning and impregnation of wood.
- 434. Forest Policy (2).** Winter. Pr., junior standing.
Development of forest policy in the United States against the background of cultural heritages and national economic situations as causative factors. Some time is devoted to several basic considerations important in developing forest policy.
- 435. Forest Products Merchandising (5).** Lec. 3, Lab. 6. Winter. Pr., FY 204, junior standing.
Introduction of both round and sawn products on the forest products market serves as a basis for the course. Special emphasis is placed on relationships between stumpage value, production costs, and selling price of each product. Problems designed to demonstrate the effect of integrated merchandising of forest products are supplemented with sawmill demonstrations and field discussions.
- 440. Farm Forest Management I (3).** Lec.-Dem. 4. Pr., graduate standing.
Field demonstrations to be arranged. Methods of measuring forest products and computing volumes and growth of trees and stands applicable to forest practice on farm woodlots. Methods of thinning, stand improvement, and harvesting, applicable to woodlot management.

GRADUATE COURSES

- 600. Microtechnique of Woody Plants (5).** Lec. 1, Lab. 12. Fall. Pr., FY 311. Staff
Preparation and sectioning of woody tissues for microscopic study. Care and use of the sliding microtome, staining, counterstaining, and mounting of sections.
- 601. Wood Chemistry (5).** Lec. 2, Lab. 9. Spring. Pr., FY 430, CH 203. Richards
Detailed study of the physical and chemical nature of cellulose and modified cellulose and their derivatives. Study of the lignocellulose complex. The chemical analysis of wood.
- 602. Chemistry of Wood Glues, Finishes, and Impregnants (5).** Lec. 3, Lab. 6. Richards
Spring. Pr., CH 208.
The composition and characteristics of the synthetic resins used in glues and finishes. The chemical nature of the inorganic and organic chemicals used as fire retardants and preservatives. Testing methods.
- 603. Timber Physics (5).** Lec. 3, Lab. 6. Winter. Pr., FY 431, MH 202. Staff
Use of the calculus in deriving the equation used in mechanics. Solution of simple differential equations of beams. Design of joists, trusses, and structures. Stress analysis by graphic and analytic methods. Relation of minute structure of wood to mechanical properties. Electrical and other non-mechanical properties of wood. Moisture relations in wood.
- 604-5. Preservative Evaluating Techniques (3-3).** Lec. 1-1, Lab. 6-6. Fall, Winter. Richards
Pr., permission of instructor.
Preparation and care of pure cultures of wood rotting fungi. Physiology of the fungi. Agar and wood block methods of preservative evaluation. Use of agar cultures and soil cultures. Weight loss and strength loss as criteria of decay. Resistance to termites and marine borers. Planning service tests. Use of complex statistical design. Study of synergism in preservative mixtures.
- 606. Mechanics of Wood Cutting Tools (3).** Lec. 2, Lab. 3. Fall. Staff
Study of the action of saw teeth, planer knives, cutterheads, and veneer knives and their shape and material of construction. Study of angle, depth, and rate of cutting and the resultant power consumption. Review of new developments in the field.
- 611. Advanced Forest Soils (5).** Lec. 3, Lab. 6. Fall. Pr., AY 304 or AY 305. Hodgkins
Importance of morphological, physical and chemical properties of forest soils in relation to growth of trees. Classification of forest soils on the basis of productivity. Special emphasis on forest soils in the southern pine region.
- 612. Forest Influences (5).** Lec. 4, Lab. 3. Winter. Pr., FY 203. Hodgkins
Effects resulting from the presence of forest or brush upon man, climate, soil productivity, erosion, soil water, runoff, stream flow and floods. Review of the field of forest hydrology.
- 613. Applied Forest Management (5).** Lec. 3, Lab. 6. Fall. Pr., FY 407 or permission of instructor. Christen
The application of the principles of forest management to a specific forest unit. Special emphasis will be placed on the analysis and evaluation of the physical and economic conditions existing in and around the forest area. The student will prepare a workable management plan for a specific forest tract.

614. **Forest Land Valuation and Tenure (5).** Lec. 5. Winter. Pr., FY 427. Christen
History of, and factors affecting forest land tenure in the United States. Advanced work in
the valuation of forest land for purchase, tax assessment, and damage appraisal.
616. **Advanced Forest Research Methods (5).** Lec. 3, Lab. 6. Winter. Pr., FY 421
or permission of instructor. Posey
Role of experimental design in the field of forest research and the statistical analysis of
data as aspects of scientific methods in forest research.
617. **Forest Inventory (5).** Lec. 4, Lab. 3. Winter. Pr., FY 417, FY 427. Becking
Design and analysis of large scale timber volume and growth appraisals, continuous forest
inventory and use of electronic computing equipment in forest inventory operations.
640. **Farm Forest Management II (3).** Lec. 4. Pr., FY 440 and graduate standing. Staff
Organization of the farm woodlot for continuous forest production. Methods of balancing
cut and drain, and plans for the efficient administration of the woodlot as a business.
690. **Forestry Seminar (3).** Spring. Staff
Advanced study of current literature and recent developments, with written and verbal
reports on selected problems.
695. **Special Problems (3 to 8 hrs).** All quarters. Staff
Study of a special problem in forestry or wood utilization. Such a problem will be of
lesser magnitude than a thesis but will test the student's ability to do thorough library
research as well as any needed laboratory or field work, and to prepare a comprehensive
report on his findings. The work may be spread over more than one quarter, but shall be
limited to a total of eight quarter hours.
699. **Research and Thesis.** Credit to be arranged. Staff

History and Government (HY)

Head Professor Reynolds

Professor Partin

Research Professor McMillan

Associate Professors Ivey, Johnson, Kendrick, and Rea

*Assistant Professors Belser, Griffin, McNorton, Metzger, Naylor, Reagan,
and Williamson*

*Instructor Nancy C. Roberson**

In addition to the regulations governing the major in the School of Science and Literature as stated on page 199, these additional requirements apply to the History major:

The major will include HY 311 Medieval History, 5 quarter hours; HY 312 Modern European History, 5 quarter hours; and HY 313 Recent European History, 5 quarter hours.

101. **History of the United States (5).**
A study of the history of our country to 1865. Required of majors and minors in the Social Sciences in the School of Education.
102. **History of the United States (5).**
A study of the history of our country since 1865. Required of majors and minors in the Social Sciences in the School of Education.
- 105-205-305-405. **Current Events (1).**
A study of the events of the world today based on current periodicals.
107. **American History (5).**
This is a general survey of American History covering important phases from the period of discovery and colonization to the present. Credit for this course excludes credit for HY 101 or 102.
204. **History of the Modern World (3).** General elective. History 208, 312, and 313 exclude credit for this course.
A brief survey of major periods of modern history and the factors contributing to the modern world civilization. Primarily intended for students in Engineering curricula.
206. **American Government (5).** Pr., sophomore standing. HY 209 excludes credit for this course.
A survey course in national, state, and local government.
207. **World History (5).** Pr., sophomore standing.
This course gives a survey of the leading events in World History from ancient times to 1648.

* Temporary.

208. **World History (5). Pr., sophomore standing.**
This course gives a survey of the leading events in World History from 1648 to the present.
209. **American Government (5). Pr., sophomore standing. HY 206 excludes credit for this course.**
Is an advanced course in nature, theory and practice of national government in the United States.
210. **American Government (5). Pr., sophomore standing.**
This is an advanced course in the nature, theory and practice of state and municipal government of the United States with emphasis on Alabama government.
311. **Medieval History (5). Pr., junior standing.**
Primarily a history of Europe from the fall of the Roman Empire to the Age of Discovery.
312. **Modern European History (5). Pr., junior standing.**
A history of Europe from the Age of Discovery to 1815.
313. **Recent European History (5). Pr., junior standing.**
A history of Europe since 1815, with especial emphasis on the period since World War I.
314. **American Colonial History (3). General elective. Pr., junior standing.**
A survey of the political, economic and social history of the colonies from their founding through the American Revolution.
315. **International Organization (3). General elective. Pr., junior standing.**
This course traces the evolution of international organization from the beginning through the United Nations.
322. **The United States in World Affairs (3). General elective. Pr., junior standing.**
A brief survey of the influence which the United States has exerted in international affairs. (Excludes credit for HY 421.)
371. **History of the West (3). General elective. Pr., junior standing.**
A brief history of the development of the West and of its influence on American history.
403. **The Age of Jefferson and Jackson (5). Pr., junior standing.**
A study of United States history from the establishment of the government under the Constitution through the Compromise of 1850.
404. **Recent American History (5). Pr., junior standing.**
A study of United States history since 1900.
406. **The Civil War and Reconstruction (5). Pr., junior standing.**
A study of the political, economic, social, and military aspects of the period covered.
407. **Political Science (5). Pr., HY 206 or 209 and junior standing.**
A systematic study of the nature, scope, and methods of political science; the origin, forms, and functions of the state, with special emphasis on the development of political theory.
408. **American Political Parties (5). Pr., junior standing.**
A study of the development of political parties, their policies and influences in United States history.
409. **Constitutional History of the United States (5). Pr., junior standing.**
A survey of the origins and development of the Constitution of the United States.
420. **History of Russia (5). Pr., junior standing.**
A survey study of the history of the Russian people from early times to the present. Particular emphasis is laid on present domestic institutions and foreign policy.
421. **A History of U. S. Diplomacy (5). Pr., HY 107 and junior standing.**
A history of the chief events in our relations with foreign powers from the Revolutionary war to the present, and a study of the organization and working of our diplomatic machinery. (Excludes credit for HY 322.)
451. **The Far East (5). Pr., junior standing.**
A brief history of the development of the civilizations of the Far East from early times to the present. Emphasis is placed on internal affairs and institutions.
452. **History of Latin America (5). Pr., junior standing.**
A study of the political, social and economic history of the Latin American States with emphasis on their inter-relations with the United States.
460. **Great Leaders of History (5). Pr., junior standing.**
A study of some world leaders and their relationship to the great movements of history.
472. **History of England (5). Pr., junior standing.**
A brief history of the political, economic and social development of England.
481. **History of Alabama (5). Pr., junior standing.**
A brief history of Alabama from the beginning to the present.
482. **History of the South (5). Pr., junior standing.**
A survey of the political, economic and social development of the South from colonial times to the present.

GRADUATE COURSES

- 625. United States Domestic Policy to 1865 (5).
- 626. United States Domestic Policy Since 1865 (5).
- 627. United States Foreign Policy to 1865 (5).
- 628. United States Foreign Policy Since 1865 (5).
- 629. Historical Methods (5).
- 630. The Old South (5).
- 631. The New South (5).
- 632. Historical Laboratory: A Documentary History of the United States (5).
- 633. English and European History (5).
- 699. Research and Thesis (5).

Home Economics (HE)

Dean Spidle

Professors Rose and Tyer

Associate Professors Spencer, Van de Mark, Glasscock, Ritchie

Assistant Professors Graves, Layfield, Bliss, Walker, Teresa, Cannon*, and Rush

Instructors Davis, Prather*, Smith, Dawson, and Goodrick

Professional Courses

- 100. Freshman Problems (3). Lec. 3. Summer, Fall. Spidle, Tyer
An orientation course required of all Home Economics majors with special emphasis on "how to study" and problems confronting freshman students.
- 104. Related Art (5). Lec. 2, Lab. 6. Each quarter. Smith
A study of related elementary art and design. Emphasis is placed on the application of art study to the home.
- 301. Visual Aids in Home Economics (3). Lec. 3. Spring. Pr., junior standing and a major in Home Economics. Goodrick, Arnold
Recent developments in Audio-Visual Education will be studied with practical experience in developing illustrative materials in the fields of interest to home economists.
- 304. Home and Family Life (3). Lec. 3. General elective. Each quarter. Layfield
A study of the relationships of family members, economic and social problems at all age levels, and development tasks of individuals. Open to men and women.
- 306. Personal Grooming (3). General elective. All quarters. Arnold
A study of personal grooming and clothing in relation to its design, cost, and upkeep.
- 401. Extension Organization and Methods (5). Winter, Summer. Graves
Program planning, methods of communications used by extension and public utilities including history and organization.
- 421. An Evaluation of the Major Field (5). Pr., junior standing. Staff
An evaluation of the possibilities of the major field and the working techniques involved in some of the positions available.
- 431. Senior Seminar (3). Fall and Spring. Pr., Senior standing and a major in Home Economics. Staff
A senior course required for all Home Economics majors. Survey and discussion of recent studies on opportunities and responsibilities for careers in Home Economics: analysis of characteristics, abilities, and skills necessary for success.

GRADUATE COURSES IN HOME ECONOMICS

The School of Home Economics offers major work leading to a Master's degree in Clothing and Textiles, Food and Nutrition, Family Life and Nursery Education, and Home Management. The student may elect either the Master of Science or the Master of Home Economics degree, except in the fields of Nutrition and Textiles in which a thesis is required.

To qualify for graduate study, the student must have a Bachelor's degree from a recognized college or university, and sufficient background to assure high quality work on the graduate level. The graduate catalog should be consulted for further information.

* Temporary.

** On Leave.

GRADUATE COURSES FOR ALL MAJORS

Professors Spidle, Rose and Tyer
Associate Professors Spencer, Van de Mark, Glasscock, and Arnold
Assistant Professors Graves and Walker

421. An Evaluation in the Major Field (5). Staff
 (See description carried in undergraduate listing.)
- 601-2. Seminar in Home Economics (5-5). Staff
 Students make reports on the recent literature in the field of home economics. Seminar may be taken in any department: child development, clothing and textiles, foods and nutrition, or home management.
- 603-4. Administration in Home Economics (5-5). Spidle
 A study of administrative policies and procedures dealing with staff, personnel, curricula, student guidance, current trends, new legislation in education, budget implications, and program evaluation. This study is developed through lectures, group discussions, visitations to educational projects, and by visiting administrators.
605. Methods of Research in Home Economics (3). Glasscock, Rose, Tyer
 A study of research and investigation methods applicable to the various areas of Home Economics.
609. Research Studies in Home Economics (2-5). Staff
 Independent, advanced work on an approved project under the supervision of a professor in the student's chosen field of study.
651. Audio-Visual Aids in Home Economics (5). Arnold
 This course is designed to aid home economists in analyzing, evaluating, organizing, and accumulating illustrative materials.
699. Research and Thesis. Credit to be arranged. Spidle & Staff
 Required of all students under the Thesis Option in any field.

Clothing and Textiles

Associate Professors Spencer, Glasscock, and Arnold
Instructors Smith and Goodrick

105. Clothing I (5). Lec. 2, Lab. 8. Arnold, Goodrick
 A study of the selection of fabrics and of cutting, fitting, and construction of garments for personal use with emphasis on clothing construction.
205. Clothing II (5). Lec. 3, Lab. 6. Fall, Spring. Pr., HE 105 or equivalent. Arnold, Goodrick
 A study of the economics of clothing for the statistical family group. Suitable garments are planned and made for members of the family.
215. Clothing Design (5). Lec. 2, Lab. 6. Each quarter. Pr., HE 104, 105. Smith
 A study of color, line, form and texture as a basis for designing apparel.
305. Tailoring (3). Lab. 9. Winter, Summer. Pr., HE 205, junior standing. Arnold
 Consists of selection of fabric and tailoring of a suit or coat.
315. Textiles (5). Lec. 3, Lab. 4. Fall. Glasscock
 The principal aim of the course is the development of sound judgment in the selection of textiles for personal and household use.
325. Fundamentals of Retailing (5). Winter. Pr., EC 201, junior standing. Arnold
 A study of the practices and policies of retail stores.
335. Retail Training (8). Fall. Pr., HE 325. Arnold
 Three months practical experience with pay in large department store. Students are given formal instruction and supervision. Scheduled only by pre-arrangement.
345. Handicrafts (1-2-3). Lab. 9. General elective. Each quarter. Arnold, Goodrick, Smith
 A study of execution of popular crafts; viz., metal work, leatherwork, ceramics, weaving, rug hooking, fabric decoration, and camp craft.
355. Textile Buying (3). Lec. 3. General elective. Fall, Winter, Spring. Goodrick
 A study of textile fabrics, finishes and trade practices with special emphasis on consumer problems.
405. Creative Costume Design (5). Lec. 2, Lab. 9. Spring. Pr., junior standing, HE 215, and two quarters of clothing construction. Arnold
 Consists of making dress forms, designing, draping and executing original designs. Designers and their methods are studied.

415. History of Textiles (5). Lec. 5. Pr., Elementary art and junior standing. **Spencer**
A study is made of the development of the textile industry and of fabric design from the earliest times to the present day.
425. History of Costume (5). Lec. 5. Pr., Elementary art and junior standing. **Spencer**
A study of the outstanding historic modes in dress for men and women from early times to the present day.
435. Textile Testing (5). Lec. 2, Lab. 6. Winter. Pr., HE 315. **Glasscock**
Testing household and apparel textiles with standard textile testing equipment according to A.S.T.M. methods, and the application of data found to better consumer understanding and practices.

GRADUATE COURSES

650. Flat Pattern Designing (5). Pr., 15 quarter hours undergraduate clothing. **Arnold**
A study of commercial methods of pattern making. Developing a foundation pattern from which to design and cut garments. Attention is given to variations from the norm of human body measurements and to the need for further research in designing for various age groups.
652. Clothing and Textiles Literature (5). **Spencer**
A study of written material in the field of Clothing and Textiles with special emphasis on current periodicals, pamphlets, and reports of recent research. Required of all candidates for the master's degree in Clothing and Textiles.
653. Economics of Clothing Consumption (5). Pr., EC 200, HE 205. **Spencer, Arnold**
A critical examination of the literature on Clothing and Textiles economics, modern trends in manufacture and distribution and labor laws and their influence on clothing.
654. Special Problems in Clothing Economics (5). Pr., HE 653. **Spencer, Arnold**
A study of individual family problems relating to the economics of clothing and textiles, with practical application to the present day consumer.
655. Problems in Home Decoration (5). **Spencer**
The undergraduate course, HE 313, is used as a basis for advanced work along the same lines. Problems in valuing choice of materials and arrangements of exteriors as well as interiors of the home are made the topic of minor research.
656. Speed Techniques in Clothing Construction (5). Pr., 10 quarter hours undergraduate clothing. **Arnold**
A study of recent trends toward rapid construction and of the problems and possibilities of bringing commercial methods into the home or classroom. Minor research in newer methods of clothing construction.
657. Detergency and Cotton Textiles (5). Pr., HE 315 or equivalent. **Glasscock**
A study of the chemical relation of detergents, water, bleach, and mechanical action to cotton fibers (cellulose).
658. Chemical and Physical Analysis of Textiles (5). Pr., HE 315 or equivalent. **Glasscock**
The study and application of the theory of A.S.T.M., A.A.T.C.C., and other standardized procedures.

Family Life and Early Childhood Education

Professor Tyer
Assistant Professors Layfield, Bliss and Walker
Instructor Dawson

207. Introductory Child Development (3). Lec. 2, Lab. 2. Fall, Winter, Spring. Pr., SY 201. **Tyer, Walker**
Emphasis will be placed on prenatal development, maternal and infant care.
407. Growth and Development of Children (5). Lec. 3, Lab. 6. Pr., PG 211, SY 201. **Layfield, Dawson, Bliss**
A study of the mental, physical, social and emotional growth and development of children with emphasis on the early years. Students observe and participate in the care of children in the nursery school and kindergarten.
417. Guidance of Children (5). Lec. 3, Lab. 6. Pr., HE 407, and junior standing. **Staff**
A study of the environmental factors affecting the development of children in the home and community. Emphasis is given to principles and methods of guidance. Students participate in the guidance of the children in both the nursery school and kindergarten.

437. **Special Problems in Child Development Nursery School and Kindergarten Education (5).** Lec. 3, Lab. to be arranged. Pr., junior standing. Staff
A detailed study of the organization and management of a nursery school and kindergarten, including selection of equipment. Special units of work will be given in reading and story telling, nature, music, art, and construction of play materials for children.
447. **Nursery School and Kindergarten Procedures (5).** Lec. 2, Lab. 9. Pr., junior standing and HE 437. **Tyer, Layfield, Walker**
An advanced course for majors in Nursery School and Kindergarten Education. The student will spend the equivalent of three mornings in the laboratory each week with increased responsibility for the guidance of children under supervision of the staff.

GRADUATE COURSES

670. **Personality Development (5).** **Tyer**
A general study of personality and the factors which influence development.
672. **Parent Education (5).** **Tyer**
A basic course in the content and methods of Parent Education.
675. **Pre-School Guidance (5).** **Tyer**
An application of methods and techniques of guidance in laboratory groups of pre-school children. Hours in the laboratory to be arranged.
676. **The Family and Its Relationships (5).** **Tyer, Layfield, Walker**
Intensive study of the family and its effect upon personality development.
677. **Readings in Family Life and Child Development (5).** **Layfield, Spidle**
Study and evaluation of current literature and research concerning the pre-school child; the school-age child; the adolescent; the young adult; problems of later maturity; changing family patterns.
678. **Advanced Child Development (5).** **Layfield, Tyer**
An intensive and extensive study of growth and development of children with emphasis upon environmental and developmental factors affecting growth and development and implications for guidance.

Foods and Nutrition

Associate Professors Van de Mark and Ritchie
Assistant Professors White, Rush, Cannon, and Teresa
Instructor Davis

102. **Foods I (5).** Lec. 3, Lab. 4. Each quarter. **Ritchie, White, Davis**
Basic nutrition and principles underlying the fundamental processes of food preparation.
202. **Foods II (5).** Lec. 3, Lab. 6. Each quarter. Pr., HE 102. **Ritchie & White**
Meals are planned and served to meet the needs of the family on different economic levels.
302. **Table Service (3).** Lec. 3. General elective. Each quarter. **Ritchie**
A study is made of the accessories used for table service in their relation to each other and to the complete service of meals. Principles of flower arrangements are studied and forms of the different food services in the home.
322. **Food Preservation (3).** Lec. 1, Lab. 6. Fall and Summer. Pr., VM 311 (Bact.). **Ritchie**
The course consists of the study of the theory and practice of preservation of foods by fermentation, crystallization, canning and freezing with special emphasis placed in better quality of foods preserved at home.
332. **Nutrition and Dietetics I (5).** Lec. 3, Lab. 4. Fall. Pr., CH 204, VM 210. **Teresa, Van de Mark**
A study and application of the various factors in influencing the body's need for food. A course for majors in Nutrition or Nursing Science.
342. **Nutrition and Dietetics II (5).** Lec. 3, Lab. 4. Winter. Pr., HE 332. **Teresa, Van de Mark**
A continuation of HE 332.
352. **Institutional Organization (3).** Lec. 3. Winter, Summer. **Van de Mark, Rush**
The organization and administrative work in residence halls, clubs, lunch rooms, tea rooms, hotels and hospitals. Study of physical equipment, personnel, ethics, marketing conditions, food purchases, records and accounts. Required field trips to residence halls, hospitals, etc., for observation.
362. **Problems in Community Nutrition (3).** Pr., HE 342, or HE 372. **Ritchie, Cannon**
Study of the methods of presenting nutrition information or organizations engaged in community work. Field experience.

372. Nutrition and Health (Credit 3 or 5). Lec. 3, Lab. 4. General elective. Each quarter. Pr., for 5 hour course, CH 102 & 102L. Van de Mark, Davis
A study and application of the fundamentals of human nutrition. Food requirements of different age levels and selection of food at different cost levels are considered. Open to all students except Nutrition or Nursing Science majors.
402. Diet Therapy (5). Lec. 3, Lab. 4. Spring. Pr., junior standing, HE 332, and HE 342. Ritchie
The application of principles of nutrition to various periods of stress and as a therapeutic aid in treatment of disease.
412. Large Quantity Cookery (5). Lec. 3, Lab. 6. Fall. Pr., junior standing and HE 202. Van de Mark & White
Practical experience in menu planning, preparation and serving foods for large groups. Use, operation and maintenance of equipment. College kitchens are used as the laboratory.
432. Cafeteria Management (5). Lec. 3, Lab. 6. Pr., junior standing and HE 352. Van de Mark
A study is made of layouts, personnel management, foods and equipment applicable to cafeterias. Course also includes administrative problems, records, portion and cost controls. (Field trips.)
442. Catering (3). Lec. 1, Lab. 6. Spring. Pr., HE 202. Ritchie
Advanced food preparation is studied in relation to needs in field of catering. This applies to clubs, hotels and other institutions such as colleges. Problems studied include proper decorations, settings and table accessories.
452. Food for the Young Child (5). Lec. 2, Lab. 9. Pr., HE 102 and 202. Ritchie
A study is made of the food and its preparation for feeding during the pre-natal period and feeding the infant after birth—through the preschool years. The college nursery school serves as a laboratory for this course.
462. Experimental Cookery (5). Lec. 2, Lab. 6. Pr., junior standing, HE 202, and CH 203. Van de Mark
This course is based on a study of causes and effects of various methods of food preparation. It includes basic chemical reactions involved in food combinations. The course gives a foundation for work in food research.
472. Community Nutrition (5). Pr., junior standing and HE 372 or HE 332 or HE 342. White & Ritchie
A study of problems involved in improvement of nutrition practices in the community, as it applies to high school teaching and Extension Service programs.
492. Infant and Child Nutrition (5). Pr., junior standing and HE 372 or HE 332 and HE 342. Teresa, Ritchie
Nutrition requirements for growth from prenatal life through adolescence.

GRADUATE COURSES

620. Experimental Cookery (5). Pr., or corequisite, CH 304. Van de Mark
Food preparation from the experimental standpoint giving instruction in techniques used in measuring quality of food. This course gives a foundation in advanced food research.
621. Advanced Foods (5). Pr., HE 202 and HE 462. Van de Mark
Chemical and physical changes of importance in food preparation and processing.
622. Problems in Food Preservation (5). Pr., VM 311 and HE 332. Ritchie
Various problems which grow out of advanced study of the preservation of foods. These problems are subjects for minor research.
623. Readings in Food or Nutrition (5). Pr., HE 372, 332, CH 203. Van de Mark
A critical survey of current literature in nutrition and food consumption.
624. Advanced Nutrition I (5). Pr., HE 332, HE 342, CH 203, CH 208. Staff
A study of carbohydrates, fats, proteins and the minerals.
625. Advanced Nutrition II (5). Pr., HE 332, CH 207, CH 208. Staff
A study of the vitamins and their interrelationships.
628. Research Methods in Nutrition (5). Van de Mark
Special problems in human nutrition.

Home Management

Professor Rose

Assistant Professors Graves and Walker

233. Home Equipment (5). Lec. 2, Lab. 6. Fall, Spring. Graves
A study of home equipment with emphasis on selection, use and care.
303. House I (5). Lec. 2, Lab. 6. Fall, Winter, Spring. Spencer
This course is planned to give the student an appreciation of basic plans, both period and modern, from the standpoints of utility, beauty and economy.

- 313. Home Furnishing (5).** Fall, Spring, Summer. Pr., HE 104. Spencer
This course is a study of home furnishings both from an aesthetic and practical standpoint. This includes the recognition of period furniture and its adaptability to the home of today.
- 323. Home Management (5).** All quarters. Pr., HE 202. Rose, Walker
A study of the factors affecting the management of the home for the purpose of meeting individual needs and creating satisfying family environment; emphasis on problems involving the use of time, money, and energy.
- 333. Cleaning and Lighting Equipment (5).** Lec. 2, Lab. 6. Fall. Pr., PS 207, HE 233. Graves
Principles underlying the operation and use of lighting, laundry and other cleaning equipment.
- 343. Furniture Renovation (3).** Lec. 1, Lab. 6. General elective. Winter, Spring. Graves
Practical experience in constructing and renovating furnishings for the home, including refinishing and reupholstering of furniture, making slipcovers and draperies, and chair bottoming.
- 353. Community and Family Health (3).** Lec. 2, Lab. 2. General elective. Fall, Spring. Graves
A study is made of the health facilities available to the home and community. Field trips are included.
- 433. Food Equipment (5).** Lec. 2, Lab. 6. Winter, alternate Summers. Pr., junior standing, PS 207, HE 233. Walker, Graves
Principles underlying the operation and use of food equipment.
- 443. Home Management Residence (5).** Each quarter. Pr., junior standing, HE 202, and HE 323. Rose
Residence in the home management house gives actual experience in the different phases of homemaking. Stress is placed on the process of management and satisfactory group relations. Home management houses will accommodate a total of twenty girls each quarter. Application for residence must be filed with the Home Management Department at the beginning of the junior year. The cost is the dormitory room and board fee.
- 453. The Consumer and the Market (5).** Lec. 5. Winter. Pr., junior standing and EC 200. Rose, Graves, Walker
A study of consumer problems connected with marketing; type of retail outlets, credit, advertising, standardization, labeling, and price policies.
- 463. Family Economics (5).** Lec. 5. Spring. Pr., Junior standing, EC 200, HE 453. Rose
A study in budgeting and consumer problems faced by the family.

GRADUATE COURSES

- 630. Home Management Supervision (5).** Rose
For graduate students expecting to teach home management in college and to do supervision in other areas of Home Management. A study of management problems in supervision. The three home management houses will be used for observation and study.
- 631. Trends in Home Management (5).** Spring. Rose
Major emphasis will be given to the study of national, regional, and state trends in the Home Management field. Some attention is given to international trends.
- 632. A Survey of Household Equipment (5).** Lec. 3, Lab. 4. Walker, Graves
A survey of equipment in the modern home. Equipment is tested and evaluated in the laboratory where instructional and experimental studies are carried on.
- 633. Family Housing (5).** Lec. 3, Lab. 6. Summer. Pr., EC 200, HE 303, HE 323. Walker
Economic aspects of family housing, including materials, construction, and finance. Attention is given to housing legislation.
- 634. Economic Problems of Families (5).** Pr., HE 323, HE 453. Rose
A study of income distribution, cost of living, the business cycle, taxation, and economic provisions for unemployment, health, accidents, old age, and dependents.

Horticulture (HF)

Professor Ware

Associate Professors Amling, Fisher, Furuta, Harris, Jones, Orr, and Popenoe

Assistant Professor Moore

Instructor Martin

The department offers a curriculum in Ornamental Horticulture and a major in general Horticulture.

The major in general Horticulture prepares graduates for positions as market gardeners, truck growers, fruit and nut growers, or as extension or research specialists

in horticulture. The subjects in this course deal with the production, preservation, storage, marketing, and uses of fruits, vegetables, and nuts.

The curriculum in Ornamental Horticulture offers training in landscape gardening, greenhouse management, nursery management, flower shop management and arboriculture. Under the guidance of his major professor the student in Ornamental Horticulture may choose his field of specialty in his Junior Year. Through the choice of technical electives he may specialize in his chosen field. Graduates in this course are prepared for positions as teachers and extension specialists in these fields, as managers of greenhouses, flower shops, nurseries, or a horticulture maintenance business.

Candidates for the degree of Bachelor of Science in Ornamental Horticulture are required to have three months, or an equivalent of three months, practical experience in a greenhouse, nursery, landscape sales lot, or flower shop.

Ornamental Horticulture

101. Introduction to Ornamental Horticulture (1). Lec. 1. Winter. Staff
An orientation course for freshman students introducing all fields in Ornamental Horticulture.
221. Landscape Gardening (5). Lec. 3, Lec.-Dem. 4. Spring, Fall. Fisher
The principles of landscape gardening applied to the development of small home grounds and school grounds. The lecture-demonstration periods are devoted to the study of the identification and use of ornamental plants, landscape drawings, and the propagation and maintenance of ornamental plants.
222. Plant Materials (5). Lec. 3, Lab. 4. Fall. Fisher
The identification, culture and use of ornamental trees in landscape plantings.
223. Plant Materials (5). Lec. 3, Lab. 4. Winter. Orr
The identification, culture, and use of broadleaf and narrowleaf evergreens in landscape plantings.
224. Plant Propagation (5). Lec. 3, Lec.-Dem. 4. Winter. Pr., BY 201-2. Staff
The basic principles and practices involved in the propagation of horticultural plants.
225. Flower Arranging (3). Lec. 2, Lab. 2. Fall. General elective. Orr
The principles and practices of flower arranging for the home.
321. Plant Materials (5). Lec. 3, Lab. 4. Spring. Fisher
The identification, culture and use of deciduous shrubs and small trees in landscape plantings.
322. Garden Management (5). Lec. 3, Lab. 4. Spring. Fisher
The identification, culture and use of annuals and perennials.
323. Floriculture (5). Lec. 3, Lab. 4. Fall. Pr., HF 224, BY 201-2. Furuta
The principles and practices of greenhouse construction and management.
324. Floriculture (5). Lec. 3, Lab. 4. Winter. Pr., HF 323. Furuta
Principles and practices of commercial cut flower production.
325. Landscape Design I (5). Lab. 15. Pr., HF 221. Fisher
The planning of large and small home grounds.
326. Landscape Design II (5). Lab. 15. Pr., HF 221, 325. Fisher
The planning of public areas and grounds of public buildings, including general layout, planting and detail treatment of special areas.
327. Landscape Construction (5). Lab. 15 or Lec. 3, Lab. 4. Pr., HF 325 and 326. Fisher
Planning and preparation of specifications for construction of structures that are considered a part of the landscape treatments of an area. Grading and modification of land areas for various purposes and problems in surface and underground water control to be included.
421. Arboriculture (5). Lec. 3, Lab. 4 Fall. Pr., BY 306, 309, and junior standing. Orr
The principles and practices of the care and maintenance of trees and shrubs, including pruning, tree surgery, transplantings, and fertilization.
422. Floriculture (5). Lec. 4, Lab. 3. Spring. Pr., HF 323 and junior standing. Furuta
The principles and practices of the commercial production of greenhouse pot plant crops.
423. Nursery Management (5). Lec. 3, Lab. 4. Spring. Pr., HF 224, BY 306, AY 304 and junior standing. Orr
The principles and practices of the management of a commercial ornamental nursery.
424. Plant Composition (5). Lec. 3, Lab. 4. Spring. Pr., HF 222, 223, 321, and junior standing. Fisher
The principles and practices of the combination and use of ornamental plants in landscape plantings.
425. Flower Shop (5). Lec. 3, Lec.-Dem. 4. Spring. Pr., HF 422, permission of instructor. Orr
The principles and practices of flower shop management and floral designing.

- 426-27-28. Minor Problems (5-5-5). Lec. 1, Lab. 8. Any quarter. Pr., senior standing and permission of instructor. Staff
Senior students are assigned minor problems in either Landscape Maintenance, Nursery Management or Floriculture, on which independent library, field or greenhouse investigations are made, under supervision of instructors.
429. Advanced Plant Propagation (5). Lec. 3, Lab. 4. Spring. Pr., HF 224, BY 306, and junior standing. Orr
Commercial propagation of Horticultural plants with emphasis on the physiological and anatomical principles.
430. Marketing Horticultural Specialty Products (5). Lec. 4, Lab. 3. Pr., HF 324, HF 422, HF 423. Furuta
Study of channels and methods of distribution of floricultural and nursery products.

General Horticulture

201. Orchard Management (5). Lec. 3, Lab. 4. Each quarter. Moore
A practical course in propagating, planting, pruning, cultivating, fertilizing, spraying, thinning, harvesting, grading, storing and marketing the most valuable fruits and nuts grown in the South.
308. Vegetable Gardening (5). Lec. 3, Lab. 4. Each quarter. Jones
Origin, growth, storage, use, and varieties of vegetables commonly grown in home gardens.
401. Truck Crops (5). Lec. 3, Lab. 4. Fall. Pr., HE 308 and junior standing. Amling
Production and marketing of truck crops. Special consideration is given to crops grown in the South.
404. Fruit Growing (5). Lec. 4, Lab. 2. Winter. Pr., HF 201 and junior standing. Popenoe
Production and marketing of commercial tree fruits grown in the South.
405. Small Fruits (5). Lec. 4, Lab. 2. Spring. Pr., HF 201 and junior standing. Popenoe
A study of the principles and practices involved in the production of strawberries, grapes, blueberries, and brambles.
406. Nut Culture (5). Lec. 4, Lab. 2. Fall. Pr., HF 201 and junior standing. Popenoe
Production and marketing of pecans, walnuts, chestnuts, tung, and filberts.
407. Preparation and Handling of Fruits and Vegetables (5). Lec. 3, Lab. 4. Spring. Harris
Study of the harvesting, grading, packaging, and handling of fruits and vegetables for market.
408. Commercial Vegetable Crops (3). Lec.-Lab. 4. Spring or Summer. Pr., HF 308 and graduate standing.
The application of research information to the commercial production and handling of the principal vegetable crops. (Credit for both HF 408 and 401 may not be used to meet requirements for the Master's degree.)
410. Recent Advances in Small Fruits (3). Spring and Summer. Pr., HF 201 and graduate standing.
Scientific advances in small fruits and their application to small fruit culture in Alabama. (Credit for both HF 410 and HF 405 may not be used to meet requirements for the Master's degree.)

GRADUATE COURSES

601. Experimental Methods in Horticulture (5). Lec. 3, Lab. 6. Any quarter. Staff
A study involving broad purposes of research, discovery, and progress as related to the scientific method; research programs, horticultural programs, selecting projects, reviewing literature, preparing project outlines, conducting experiments, recording data, analyzing data, and publication of results.
602. Horticultural Literature (5). Lec. 3, Lab. 6. Any quarter. Amling
A review of horticultural literature and history of horticultural enterprises, including vegetables, fruits, and ornamentals. The laboratory consists of library assignments and reports.
614. Seminar (1). Fall, Winter, and Spring. Staff
Study of the literature in Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Emphasis will be given to preparation, organization, and presentation of material by the students. This is a joint seminar among the Departments of Agronomy and Soils, Botany and Plant Pathology, and Horticulture. Required of all graduate students in these departments.
699. Research and Thesis. Credit to be arranged. May be taken more than one Staff
quarter.

Industrial Laboratories (IL)

Professors Jones and Haynes

Assistant Professors Goolsby, Stoves, and Leffard

Instructors Wingard and McMurtry

Courses in the Industrial Laboratories Department are designed chiefly for those interested in the field of production. The basic areas included are casting, machining, inspection, forming, welding, and other fabrication methods of manufacturing. Attention is given also to the needs of sales and maintenance engineering of industrial equipment involved in the various areas.

In cooperation with the School of Education, this Department also offers a program for the professional and technical training of Industrial Arts teachers for elementary and secondary schools. (See School of Education for major and minor requirements.)

These courses are available as electives to all students with the necessary prerequisites.

102. **Welding Science and Application (1). Lab. 3.**
A study of basic principles and application of welding and cutting processes in the fabrication of metals.
103. **Machine Tool Laboratory (1). Lab. 3.**
Introduction to metal removal processes. A study of basic machines of production.
104. **Sheet Metal Design and Fabrication (1). Lab. 3.**
Methods and equipment used in design, production and fabricating of sheet metal products.
105. **Foundry Technology (1). Lab. 3.**
Basic fundamentals involved in casting products of ferrous and non-ferrous metals.
308. **Gages and Measurements (5). Lec. 4, Lab. 2. Pr., IL 103.**
Studies in the science of measurement as applied to production and inspection of industrial products.

Manufacturing Processes

These courses are designed to acquaint the student with the basic manufacturing processes including an analysis of machines, tools, and materials, and design of products in the respective areas indicated below:

301. **Manufacturing Processes—Casting area (3). Lec. 3. Pr., IL 105.**
Analysis of materials, methods, and design of cast products.
302. **Manufacturing Processes—Machining area (3). Lec. 3. Pr., IL 103.**
A study of the principles of machining metal products.
303. **Manufacturing Processes—Shaping, Forming, and Fabricating Area (3). Lec. 3. Pr., IL 102.**
A study of materials and methods involved in the production of metal products by shaping, forming, and welding processes.
405. **Problems in Welding Engineering (5). Lec. 3, Lab. 4. Pr., IL 102.**
Advanced phases and techniques of welding and allied processes. Studies in design, weldability of metals, inspection practice, and selection of equipment.
406. **Problems in Machining (5). Lec. 3, Lab. 4. Pr., IL 103.**
Advanced phases of metal machining with emphasis on production machines and accessories.

The following courses are designed chiefly for the preparation of teachers in Industrial Arts subjects and related fields. Some of these courses are recommended for those interested in avocational areas and hobbies.

101. **Woodworking (1). Lab. 3.**
Introduction to machines, tools, and materials used in working with wood and plastic.
307. **General Metals (5). Lec. 3, Lab. 4. Pr., IL 104.**
Design, construction and finishing art metal projects.
402. **Advanced Woodworking (5). Lec. 3, Lab. 4. Pr., IL 101.**
Studies in design, construction, and finishing fine objects of wood.
403. **General Shops (5). Lec. 5. Pr., senior standing.**
Problems of organization of unit shops into integrated whole for effective use in high school teaching.
415. **Shop Work for Elementary Teachers (5). Lec. 2, Lab. 6. Pr., junior standing.**
Methods, materials, and techniques involved in conducting activity programs in schools and recreational centers.

416. **Materials of Industrial Arts (5).** Lec. 5. Pr., senior standing.
History and use of various materials used in industry.
417. **Organization of Shop Courses (5).** Lec. 5. Pr., senior standing.
Organization and administration of the Industrial Arts program in the public schools.
418. **Industrial Arts Design (5).** Pr., senior standing.
Fundamentals of design as applied to Industrial Arts projects.

GRADUATE COURSES

- 611-612. **Technical Problems in Industrial Arts (5-5).** Pr., Graduate standing.
Advanced study of technology and method in selected areas of Industrial Arts.

Industrial Management (IM)

Professor Lane

Associate Professors Cobb, Coppedge, and Layfield

Assistant Professors Bryant, Fowler, Henry, and Morgan

Instructor Briney

302. **Production Control (5).** Lec. 4, Lab. 3. Pr., IM 306.
Planning, scheduling, routing, and dispatching in manufacturing operations; production control system; mechanisms for production control.
306. **Industrial Management (5).** Pr., sophomore standing.
Fundamental principles and modern method of control in industry; evolution of industry and management; organization for control of materials, cost, production, purchasing, store-keeping, inventory, quality; labor relations, wages and rates, job analysis.
307. **Safety Engineering (5).** Pr., sophomore standing.
Principles, practices, organizations, and procedures for industrial accident prevention and plant protection.
308. **Inventory Control (5).** Pr., IM 306 and IM 302.
Application of principles and techniques to the programming of material requirements, procurement, storekeeping, salvage and conservation.
309. **Materials Handling (5).** Pr., junior standing.
Materials handling equipment, methods, and systems.
310. **Methods Engineering (5).** Lec. 4, Lab. 3. Pr., IM 306 and junior standing.
Study and practice in applying the principles which govern motion economy; work space organization; selection of materials, jigs, fixtures, and equipment; and the application of methods time measurement for the determination of the most economical method of manufacture.
311. **Time Study (5).** Lec. 4, Lab. 3. Pr., IM 310.
Study and practice in applying the principles governing the establishment of standard data in the various forms required for methods time measurement, wage incentive organizations, budgetary planning and standard cost; and the use of time measuring equipment in problems of standard data determination.
312. **Machine Tabulation (3).** General Elective. Pr., junior standing.
Operation and maintenance of tabulating machines.
313. **Budget Control (5).** Lec. 4, Lab. 3. Pr., EC 214 and IM 306.
Purposes, organization, preparation, and administration of industrial budgetary control of purchases, materials, labor, manufacturing expense, production, plant, and equipment.
402. **Quality Control (5).** Lec. 4, Lab. 3. Pr., senior standing.
Statistical method of quality control for economical manufacture; inspection methods; organization and procedure for quality control; determination of sample size.
405. **Industrial Plants (5).** Lec. 4, Lab. 3. Pr., EG 104, EG 105, IM 302, and IM 310.
Design and layout of industrial plants.
406. **Problems in Industrial Management (5).** Pr., IM 302, IM 311, EC 345, and senior standing.
Application of fundamental principles to problems of industry as guide for decisions of management.
410. **Industrial Training (5).** Pr., junior standing.
Methods, policies, and procedures for training executives, supervisors, technicians, foremen, workers, and apprentices in industry.
411. **Plant Location (5).** Pr., junior standing.
Industrial surveys to determine economic location of industrial plants.
412. **Engineering Economy (5).** Pr., junior standing.
Practical engineering studies for the economic selection of alternative structures, equipment, project, processes, and methods by comparison of costs.

413. **Sales Engineering (5). Pr., IM 306 and junior standing.**
Application of principles and techniques to selling industrial products when a background knowledge of manufacturing processes is required.
414. **History of Management (5). Pr., junior standing.**
A chronological account of the origin and application of the scientific approach to the control of the means of production and its contribution to industry and society.
415. **Plant Maintenance (5). Lec. 4, Lab. 3. Pr., IM 306.**
Principles of organizing and controlling maintenance operations of industrial plants.
416. **Managerial Control (5). Lec. 4, Lab. 3. Pr., IM 306 and junior standing.**
Principles and application of mechanizing managerial control procedures.
417. **Operations Research (5). Pr., IM 306 and senior standing.**
Organized application of scientific methods and techniques to the study of operating problems of management.
418. **Contracts and Specifications (3). Pr., Senior standing.**
Contract documents; specification writing; professional relations.

Journalism (JM)

Associate Professor Burnett

In addition to completing the general requirements prescribed by the School of Science and Literature, the English-Journalism major takes 35 hours of course work in English and Journalism. This 35 hours should include EH 390, three journalism courses, and three 300 and 400 English courses. Though a student may major in English and minor in journalism, he is not permitted to major in English-Journalism and also use journalism as a minor. Students majoring in English-Journalism or minoring in journalism should report to the Professor of Journalism for advice on their programs of study.

English 101-2 or 103-4 is a prerequisite for all courses in journalism.

221. **Beginning Newswriting (5).**
Introduction to newswriting, newspaper style, and mechanical practices. Supplemented by work on the college newspaper.
223. **Reporting (5). Pr., JM 221.**
Study and practice in the technical aspects of reporting and newsgathering methods. Supplemented by work on the college newspaper.
224. **Copyreading and Editing (5). Pr., JM 221.**
The methods of editing copy, writing headlines, basic make-up and proof reading.
315. **Agricultural Journalism (3).**
Designed for students of agriculture and home economics. Introducing the practices of news coverage and writing, with major emphasis on specialized fields of study.
322. **Feature Writing (5). Pr., JM 221 or permission of the instructor.**
Gathering material for and the writing of "human interest" and feature articles for newspapers and magazines, with consideration given to the marketing of manuscripts.
323. **The Weekly Newspaper (5). Pr., JM 221.**
The methods, problems, and policies involved in editing the weekly newspaper, as differing from the metropolitan daily.
421. **Photo-Journalism (5).**
A study of the uses and processes of photography in the newspaper and magazine field. Operation of press cameras and the techniques of developing, printing, and enlarging of pictures is provided.
465. **The History and Principles of Journalism (5).**
A study of the development of the American Press, the principles and ideals of modern journalism, and the law of the press and radio.

GRADUATE COURSE

605. **Agricultural Newswriting (3). Lec. 4. Pr., 20 hours of Journalism or consent of instructor.**
A study of the methods and problems of writing agricultural and home economics news, feature articles, and columns for publication. Special attention is given to improving communication effectiveness between the specialist and the public.

Laboratory Technology (LT)

Professor Schrader
Instructors Attleberger and Crews

- 301. Hematology (5). Lec. 3, Lab. 6.**
 This course involves the study, procedures, and examinations of the blood, as recommended by the American Society of Clinical Pathologists.
- 305. Serology (5). Lec. 2, Lab. 6. Pr., VM 204.**
 Theory and techniques of laboratory tests based in the antigen-antibody reaction.
- 401. Advanced Hematology (5). Lec. 3, Lab. 6. Pr., LT 301.**
 Advanced study of blood cells and blood dyscrasias.
- 402. Seminar in Laboratory Technology (3). Pr., LT 301.**
 The student reports from the literature on recent advances in the field of laboratory technology.
- 405. Advanced Serology (5). Lec. 2, Lab. 6. Pr., LT 305.**
 Theory and techniques of the serological study of human blood.
- 421. Diagnostic Apparatus (5). Lec. 2, Lab. 9. Pr., PS 206.**
 Studies in the use of such hospital equipment as are used in X-ray, electrocardiographic, and basal metabolism diagnosis.
- 422. Hospital Laboratory Practice (5). Lab. 15. Pr., LT 301, LT 421.**
 Practical applications of the principles, procedures, and techniques encountered in hospital laboratories.
- 423. Advanced Hospital Laboratory Practice (5). Lab. 15. Pr., LT 422.**

Library Science (LY)

- LY 101. Use of the Library (1). Taught by academic members of the Library staff.**
 Lectures and assignments designed to facilitate use of the card catalog, periodical indexes, reference books, and the compilation of bibliographies.

Mathematics (MH)

Head Professor Parker
Professors Macon, Williams and Wilson
Research Professor Ikenberry

Associate Professors Ball, Burton, Butz, Huff, Perry, Robinson and Thompson
Assistant Professors Baskervill, B. Fitzpatrick, Moss, Sanders and Schoonmaker
Instructors Allison, Alvord, Bass, Ginkley, Caraway, M. Fitzpatrick, Graham, Ivey, Light, Lindsey, Lukawecki, Newman, H. Smith, and Steward
Graduate Assistants Atkinson, Bennett, Black, Bogue, Buntyn, Burdeshaw, Burton, Clanton, Colbert, Crocker, Dixon, Garner, Green, Humphrey, Issos, Kim, Koh, Leaird, Locker, Lomax, Major, Moore, O'Neil, Rice, N. Smith

Students who contemplate careers as mathematicians should follow the curriculum found on page 181. This curriculum is designed to prepare a student for graduate work in mathematics. Because of the current emphasis on mathematics and science, numerous fellowships are available to provide capable students with financial aid to pursue graduate work leading to careers in research and college teaching, or careers in industry.

Other students in the School of Science and Literature desiring a major in mathematics should complete the sequences through MH 264 (or MH 301) during the freshman and sophomore years. At the beginning of the junior year, these students must consult the Department of Mathematics on the selection of at least four additional junior and senior mathematics courses to complete this major.

Students in the School of Education desiring a major or minor in mathematics are referred to page 137.

- 040. Remedial Algebra. Lec. 5. Non-credit.**
- 061. Essentials of Plane Geometry. Lec. 3. Non-credit.**
- 062. Essentials of Solid Geometry. Lec. 2. Non-credit.**
 Plane geometry will be taught for approximately the first six weeks of the quarter and solid geometry the last four weeks. Each course will meet 5 days per week. Students may register for either or both any quarter.
- 107. College Algebra (5). Pr., Departmental approval.**
 Credit is not allowed for both MH 107 and MH 111.

108. Mathematics of Finance (5). Pr., MH 107, MH 111, or MH 160.
Simple annuities; general annuities; sinking funds; amortization schedules; depreciation; bonds.
- 111-12. Introductory College Mathematics (5-5). Pr., Departmental approval. Credit in MH 111 excludes credit in MH 107.
Logic; the number system; sets and their applications to the study of linear equations, systems of equations and inequalities; relations; functions including algebraic, exponential, logarithmic and trigonometric; graphs of relations and functions.
This sequence emphasizes mathematical ideas as well as mathematical manipulation in preparing students for MH 161 or MH 113. It includes the material contained in standard college courses in algebra and trigonometry.
113. Analytic Geometry (5). Pr., MH 112 or MH 160.
127. Elementary Mathematical Statistics (5). Pr., MH 107, MH 111 or MH 160.
The purpose of this course is to develop elementary statistics based on a limited mathematical background. A study of the normal, binomial, Chi square and Poisson distributions with applications to various fields is included.
160. College Algebra and Trigonometry (5). Pr., Departmental approval.
A course to be taken in lieu of MH 111-12 by selected students.
161. Analytic Geometry and Calculus (5). Pr., MH 112 or MH 160. First quarter of a four-quarter sequence for technical students.
- 181-2. Fundamental Mathematics I, II (5-5). Pr., Two quarters of college credit.
A study of the concepts underlying the techniques of arithmetic and algebra. Previous credit for any college mathematics course excludes credit for this course.
- 201-2. Calculus I, II (5-5). Pr., MH 113 for MH 201, MH 201 for MH 202.
Differentiation and integration with applications.
- 251-2. Analytic Geometry and Calculus I, II (5-5). Pr., MH 112 or MH 160.
A brief unified sequence for non-technical students. Credit in these courses excludes credit in MH 113, MH 202, MH 161, and MH 262.
- 262-3-4. Analytic Geometry and Calculus (5-5-5). Pr., MH 161.
301. Calculus III (5). Pr., MH 202.
Infinite series, partial differentiation, multiple integrals.
307. Methods in High Speed Computation (5). Lec. 4, Lab. 2. Pr., Five hours in mathematics and junior standing.
Computing fundamentals, coding fundamentals, applications. Credit may not be earned in both MH 307 and 407.
331. Higher Algebra (5). Pr., MH 202, MH 252, or MH 263.
Properties of integral domains with special emphasis on the arithmetic of the radical integers and polynomials.
- 351-2. Finite Mathematics I, II (5-5). Pr., Five hours credit in mathematics and junior standing for MH 351. MH 351 for MH 352.
Laws of logic, theory of sets, probability, vectors and matrices.
361. Differential Equations I (5). Pr., MH 301 or MH 264.
Ordinary differential equations with applications.
402. Engineering Mathematics I (5). Pr., MH 361; junior standing.
Fourier series, Laplace transforms, partial differential equations, special functions.
403. Engineering Mathematics II (5). Pr., MH 361; junior standing.
Complex numbers, functions, mappings, residues, contour integration.
404. Engineering Mathematics III (5). Pr., MH 361; junior standing.
Vector analysis, with applications.
407. Mathematics of Computers (5). Lec. 4, Lab. 2. Pr., MH 301 or MH 264. Credit may not be earned in both MH 307 and 407.
Digital computers in the large; programming for large scale computers; numerical methods.
412. Differential Equations II (5). Pr., MH 361, or departmental approval, and junior standing.
Linear differential equations, total differential equations, series solutions.
- 420-1. Advanced Calculus (5-5). Pr., MH 264 or MH 301; junior standing.
Sets, sequences, functions, limits, continuity, derivatives, Riemann integral, series, uniform convergence.
431. Introduction to Modern Algebra (5). Pr., MH 331; junior standing.
Integral domains, groups, rings, fields.
435. Elementary Theory of Numbers I (5). Pr., MH 331; junior standing.
Theorems on divisibility; prime numbers; congruences; theorems of Fermat, Euler, and Wilson; power residues.

437. **Introduction to the Theory of Matrices (5).** Pr., MH 202 or MH 263; junior standing.
Rectangular matrices and elementary transformations; equivalence of matrices and of forms; linear spaces; matrix polynomials.
443. **Topics in Geometry (5).** Pr., MH 202 or MH 263; junior standing.
Solid analytical geometry, non-Euclidean geometry.
444. **Higher Geometry (5).** Pr., MH 202 or MH 263; junior standing.
Axiomatic development of projective geometry with the introduction of coordinates and transformations. Euclidean, non-Euclidean and inversive geometries.
461. **Numerical Analysis (5).** Pr., MH 301 or MH 264; junior standing.
Zeros of real functions; finite differences; numerical differentiation and integration; ordinary differential equations; systems of linear equations; partial differential equations.
467. **Mathematical Statistics I (5).** Pr., MH 202 or MH 263; junior standing.
Data in distribution functions; theoretical distribution functions; moment generating function; normal, binormal, Poisson, Student's "t", chi-square and "F" distribution functions; large-sample theory; linear and curvilinear correlation.
NOTE: Courses numbered between 480 and 489 are for majors in the School of Education.
481. **College Geometry (5).** Pr., MH 252 or MH 202 or MH 263; junior standing.
Classical Euclidean geometry; loci; indirect construction; the nine point circle; homothetic figures.
485. **Fundamentals of Algebra I (5).** Pr., MH 252 or MH 202 or MH 263; junior standing.
A study of algebra with emphasis given to the explicit statement of the postulates and the logical development from these basic assumptions.
486. **Foundations of Geometry (5).** Pr., MH 252 or MH 202 or MH 263; junior standing.
A study of Euclidean and non-Euclidean geometries with emphasis given to their logical development from basic assumptions. Some of the more interesting theorems of the different geometries will be discussed but no attempt will be made to develop any of the geometries completely. Some attention will be given to the history of geometry.
487. **Fundamentals of Analysis (5).** Pr., MH 202 or MH 252; junior standing.
A study of mathematical analysis with emphasis on basic principles and relationships.

GRADUATE COURSES

- 607-8-9. **Applied Mathematics I, II, III (5-5-5).** Pr., Approved graduate standing.
Scalar, vector, and dyadic fields; equations governing fields; Helmholtz's and Laplace's equations in curvilinear coordinates; separation of variables; boundary conditions and eigenfunctions; Green's functions.
612. **Differential Equations III (5).** Pr., MH 620 or departmental approval.
Existence theorems, Sturm-Liouville theory, partial differential equations.
613. **Partial Differential Equations (5).** Pr., MH 412 and MH 620.
Linear and nonlinear partial differential equations; successive approximations; existence and uniqueness theorems.
- 620-21. **Introduction to Analysis I, II (5-5).** Pr., departmental approval.
Real and complex number systems; elements of set theory; limits; series; continuity; differentiation; Riemann-Stieltjes integral; functions of several real variables.
- 622-23. **Functions of a Complex Variable I, II (5-5).** Pr., MH 620.
Complex numbers; analytic functions; derivatives, Cauchy integral theorem and formula; Taylor and Laurent series; analytic continuation; residues; Maximum principle; Riemann surfaces; conformal mapping; families of analytic functions.
- 624-25. **Linear Topological Spaces I-II (5-5).** Pr., MH 621.
Normed linear spaces, Banach spaces; bounded linear transformations, linear functionals; Riesz-representation theorem; convex sets and applications; Hilbert space.
- 626-27. **Functions of Real Variables I, II (5-5).** Pr., MH 620.
Real number system; measurable sets; Baire classes; Lebesgue integral; properties of the integral; Stieltjes and Denjoy integral.
- 631-32. **Modern Algebra I, II (5-5).** Pr., MH 431.
Numbers; sets; groups; rings; fields and polynomials; Galois theory.
635. **Elementary Theory of Numbers II (5).** Pr., MH 435.
Distribution of primes; Diophantine analysis; number lattices; selected topics from classical number theory.
636. **Algebraic Theory of Numbers (5).** Pr., MH 435.
Ideals, number fields, cyclotomic polynomials; Fermat's conjecture.
637. **Matrices (5).** Pr., MH 437.
Special types of Matrices; reduction to canonical form; readings in current literature.

643. **Analytic Projective Geometry (5).** Pr., Departmental approval.
Coordinates; transformations; conics; quadrics.
- 645-46. **Differential Geometry I-II (5-5).** Pr., MH 620.
Tensor analysis; curves and surfaces in Euclidean space; introduction to Riemannian geometry of n -dimensions.
- 650-51-52. **General Topology (5-5-5).** Pr., MH 620.
An axiomatic development of point set topology; connectivity, compactness, separability, topological equivalence, well-ordering, inner limiting sets, Cartesian products.
661. **Numerical Analysis II (5).** Pr., MH 461.
Matrices and systems of linear equations; systems of ordinary differential equations; partial differential equations.
667. **Mathematical Statistics II (5).** Pr., MH 467.
Multiple and partial correlation; small-sample theory; non-parametric methods; testing goodness of fit; testing statistical hypothesis; statistical design in experiments; sequential analysis.
NOTE: Courses numbered between 680 and 689 are for majors in the School of Education.
681. **College Geometry II (5).** Pr., MH 481 or departmental approval.
Selected advanced topics in Euclidean geometry.
682. **Applications of Mathematics (5).** Pr., approved graduate standing.
Foundations of business mathematics and applications from annuities; depreciation systems; amortization and sinking funds; life insurance and a development of the calculus as needed.
683. **Number Systems (5).** Pr., approved graduate standing.
A study of the properties of the integers, rational numbers, irrational numbers; Euclidean algorithm, unique factorization, the rational operations; square roots; number systems with bases other than 10.
685. **Fundamentals of Algebra II (5).** Pr., approved graduate standing.
Not a continuation of MH 485. Basic concepts of equation theory; transformations; algebraic curves.
691. **Directed Reading in Algebra.** Credit to be arranged. Pr., 10 hours of 600 courses in the area. This includes reading in Algebra, Abstract Algebra, Matrix Theory or Number Theory.
692. **Directed Reading in Analysis.** Credit to be arranged. Pr., 10 hours of 600 courses in the area.
693. **Directed Reading in Applied Mathematics.** Credit to be arranged. Pr., 10 hours of 600 courses in the area.
694. **Directed Reading in Geometry.** Credit to be arranged. Pr., 10 hours of 600 courses in the area.
695. **Directed Reading in Topology.** Credit to be arranged. Pr., 10 hours of 600 courses in the area.
699. **Research and Thesis.** Credit to be arranged. May be taken more than one quarter.
799. **Research and Dissertation.** Credit to be arranged.

Mechanical Engineering (ME)

Professors Vestal, Bennett, Maynor, McKinnon, Needy, and Shaw
Associate Professors Cox, Elizondo, Jones, Lawson, Min, Scarborough
F. Smith, Tanger, and Ward

Assistant Professor Ingalls

Instructors Bryan, Davis, Evans, Gillis, Liddell, Mueller, Phillips,
J. Smith, Vance and Whetstone

202. **Materials of Engineering (3).** Pr., CH 103, PS 201 or PS 205.
Manufacture, uses, and characteristics of engineering materials.
205. **Applied Mechanics—Statics (5).** Pr., PS 201, corequisite, MH 263.
Resolution and composition of forces; equilibrium of force systems; friction; centroids; moments of inertia.
301. **Thermodynamics I (5).** Pr., MH 263 and PS 202.
A study of gas laws and vapors.
302. **Thermodynamics II (5).** Pr., ME 301.
Thermodynamic cycles and applications of the gas laws.
306. **Strength of Materials I (5).** Pr., ME 205 and MH 263.
Elements of stress analysis in structures and machines.

307. **Applied Mechanics—Dynamics (5).** Pr., ME 205 and MH 263.
Types and principles of motion; action of unbalanced force systems affecting the motion of rigid bodies.
308. **ME Laboratory I (1).** Lab. 3. Corequisite, ME 302.
Mechanical laboratory experiments and reports.
309. **Materials Testing Laboratory (1).** Lab. 3. Pr., ME 306.
Testing of engineering materials in tension, in compression, and for hardness.
310. **Thermodynamics (5).** Pr., MH 263 and PS 202.
A study of gases and vapors, cycles, mass and heat transfer. For non-Mechanical Engineering students only.
311. **ME Laboratory II (1).** Lab. 3. Pr., ME 302 and ME 308.
Mechanical Engineering Laboratory experiments and reports.
313. **Fluid Mechanics (5).** Pr., ME 307 and ME 302 or ME 310.
Statics and dynamics of compressible and incompressible fluids.
316. **Strength of Materials II (5).** Pr., ME 306.
Advanced stress analysis; combined stresses; elastic stability.
319. **Elementary Heat Power (5).** Pr., CH 104, PS 205, MH 252.
Introduction to power plant equipment, fuels and combustion, spark ignition and compression ignition engines, steam and gas cycles. For non-Mechanical Engineering students only.
320. **Elementary Machine Design (5).** Pr., EG 204, ME 306.
Design of the basic machine elements including selected parts from current manufacturing practice. Use of empirical equations in design. (For non-Mechanical Engineering students only.)
322. **Elementary Machine Design Laboratory (2).** Lab. 6. Pr., ME 320.
Problems involving the synthesis of the machine elements discussed in ME 320. (For non-Mechanical Engineering students only.)
402. **Machine Design (5).** Pr., EG 204, ME 307, ME 316, senior standing; Pr. or Coreq., ME 406, ME 427.
Design of machine elements with emphasis on the analysis of stresses.
404. **Machine Design Laboratory (2).** Lab. 6. Pr., ME 402.
Problems involving synthesis of machine elements.
405. **Air Conditioning (5).** Pr., ME 302 or ME 310, and junior standing.
Theory and design of heating, cooling, and ventilating systems.
406. **Ferrous Metallurgy (5).** Pr., ME 202, ME 306 and junior standing.
Fundamental relationships between structure and properties of ferrous metals and alloys.
407. **Non-Ferrous Metallurgy (5).** Pr., ME 406.
Fundamental relationship between structure and properties of non-ferrous metals and alloys.
410. **Power Plants (5).** Pr., ME 302 and senior standing.
Power plants and components; fuels and combustion; elements of design.
411. **ME Laboratory III (2).** Lec. 1, Lab. 3. Pr., ME 311 and ME 412.
Advanced experiments in ME Laboratory and reports.
412. **Internal Combustion Engines (5).** Pr., ME 302 or ME 310 and senior standing.
Thermodynamics, design, and performance of Otto and Diesel engines; fuels and combustion. (No graduate credit permitted for M.M.E.)
415. **Refrigeration (5).** Pr., ME 302 or ME 310 and senior standing.
Theory and design of commercial and residential refrigerating systems.
421. **Heat Transfer (5).** Lec. 4, Lab. 3. Pr., ME 302 and ME 313 or AE 301 and senior standing.
Conduction, convection, and radiation of heat through conducting and insulating media. (No graduate credit permitted for M.M.E.)
424. **ME Laboratory IV (2).** Lec. 1, Lab. 3. Pr., ME 311 and ME 410.
Advanced experiments in ME Laboratory and reports. (No graduate credit permitted for M.M.E.)
425. **Gas and Steam Turbines (5).** Pr., ME 410 and senior standing.
Thermodynamic theory and design of nozzles and blade paths for gas and steam turbines.
426. **Steam Turbines (5).** Pr., ME 410 and senior standing.
Thermodynamic theory and design of steam turbines.
427. **Mechanical Vibrations (5).** Pr., ME 306, ME 307, MH 361, and junior standing.
Theory of vibration of systems of one or more degrees of freedom, with and without damping; systems with distributed constants and self-induced vibration.
429. **Power Plant Design (5).** Pr., ME 410 and senior standing.
Design problems and layout of a power plant.

430. **Internal Combustion Engine Problems (5).** Pr., ME 412 and ME 303.
Application of internal combustion engine theory to the design of engines.
432. **Automatic Controls (5).** Pr., MH 361, ME 307, and ME 313.
Process analysis; methods of control; closed loop in control; feedback systems; analysis of system problems.
434. **Fluid Mechanics and Heat Transfer (5).** Pr., ME 310 and junior standing.
The mechanics of compressible and incompressible fluids and the transmission of heat by conduction, convection, and radiation. For non-Mechanical Engineering students only.

GRADUATE COURSES

601. **Steam Engineering (5).** Pr., ME 410.
Course includes power plant problems, steam turbine analysis, and an advanced study of steam machinery.
604. **Advanced Thermodynamics (5).** Pr., ME 302.
Study of advanced theory and problems.
605. **Advanced Internal Combustion Engines (5).** Pr., ME 412.
Advanced study of design and performance of all types of internal combustion engines.
606. **Gas Turbines (5).** Pr., ME 302 and ME 425.
Analysis of gas turbine cycles, media, combustion, and operation.
607. **Advanced Strength of Materials (5).** Pr., ME 316.
Elastic energy methods, elastic and plastic deformation, thin shells and plates, and other advanced topics.
608. **Advanced Dynamics (5).** Pr., ME 307.
Advanced problems and theory.
609. **Advanced Refrigeration (5).** Pr., ME 415.
Theoretical aspects of media and systems.
610. **Advanced Heat Transfer (5).** Lec. 4, Lab. 3. Pr., ME 421 and MH 361.
Advanced theory and problems in heat transfer.
612. **Engineering Analysis (5).** Pr., MH 361 and ME 307.
Analysis of complex engineering problems and physical principles; transient and steady-state conditions; applications to heat transfer, dynamics, and other system analysis.
614. **Theory of Plates and Shells (5).** Pr., MH 361 and ME 316 or CE 401.
Bending stresses and deformation in flat plates and theory of curved shells.
615. **Experimental Research Methods (5).** Pr., Approved graduate standing.
Measurement techniques, error analysis, electronic and optical instrumentation, control circuits, data analysis and reduction.
690. **Seminar.** Credit to be arranged. May be taken more than one quarter.
699. **Thesis.** Credit to be arranged. May be taken more than one quarter.

Military Science and Tactics (MS)

Program of Instruction

BASIC COURSE

First Year (Freshmen) MS 101-102-103 (1 cr. each)

Organization of the Army and ROTC
Individual Weapons and Marksmanship

American Military History
School of the Soldier and Exercise of Command

Second Year (Sophomores) MS 201-202-203 (1 cr. each)

Map and Aerial Photograph Reading
Crew-Served Weapons and Gunnery

Basic Tactics and Elementary Communications
School of the Soldier and Exercise of Command

ADVANCED COURSE

Third Year (Juniors)

Common Subjects for All Branches
School of the Soldier and Exercise of Command
Leadership
Military Teaching Methods

MS 311-312-313, Artillery

(3 cr. each)

Organization and Capabilities
Instruments
Materiel
Communications
Gun Section Drill
Survey
Firing Battery
Observed Fires
Fire Direction
Introduction to Artillery Tactics
Operation of Field Artillery Battery

MS 321-322-323, Corps of Engineers

(3 cr. each)

Use of Explosives
Construction Materials
Concrete Construction
Military Structures
Engineer Computation and Layout
Fortifications and Camouflage Construction
Organization

MS 341-342-343, Signal Corps

(3 cr. each)

Signal Organization
Field Wire Communication Techniques
Field Radio Communication Techniques
Communication Center Procedures and Operations
Applied Signal Communication
Signal Orders

MS 351-352-353, Armor

(3 cr. each)

History and Mission of Armor
Organization of Armor
Tactics and Troop Leading in Armor
Automotive Maintenance and Tank Driving
Tank Gunnery

Fourth Year (Seniors)

Common Subjects for All Branches
School of the Soldier and Exercise of Command
Military Administration
Military Justice
Military Intelligence
Service Orientation

MS 411-412-413, Artillery

(3 cr. each)

Command and Staff
Supply and Evacuation
Employment of Artillery in the Combat Arms Team
Troop Movements
Motor Transportation
Organization and Tactical Employment of Missiles
Gunnery
Role of Air Defense Artillery
New Developments

MS 421-422-423, Corps of Engineers

(3 cr. each)

Supply of Engineer Units
Movement of Personnel and Equipment
Maintenance of Engineer Equipment
Roads and Airfields
Bituminous Construction
Construction Management
Staff Procedures
Operation of Engineer Units
Engineer in the Military Team

MS 441-442-443, Signal Corps

(3 cr. each)

Wire Communication Materiel
Radio Communication Materiel
Signal Corps Logistics
Higher Echelon Signal Communication System and Equipment
Personnel Management for Signal Corps Officers
Signal Corps Pictorial and Television Activities
Command and Staff

MS 451-452-453, Armor

(3 cr. each)

Organization and Employment of Armor Units
Automotive Maintenance and Driver Training Review
Tank Gunnery Review
Communications Review
Operations
Logistics
Command and Staff

Music (MU)*Head Professor Liverman**Professors Glyde and Hinton**Associate Professors Bentley and Tamblin**Assistant Professors Collins, Hankenson, Koper, MacGregor*, Renard and Rice**Instructors Richardson, Hankenson*, and Rice****131-32-33. Music Theory I-II-III (3-3-3). Pr., MU 102 or by permission.**

An integrated course in the development of listening, performing, and writing techniques; elementary diction, analysis, music reading, and diatonic harmony.

* Temporary.

151-2-3. Survey of Music Literature (1-1-1). Lec. and Lab. 3-3-3.

The presentation of vocal solo and choral, keyboard and chamber music, acquainting the student with musical compositions and composers with emphasis on music literature of the past three centuries.

231-32-33. Music Theory IV-V-VI (3-3-3). Pr., MU 133.

A continuation of composite theory through chromatic harmony; analysis of larger forms; continued music reading and keyboard harmony.

251-2-3. Survey of Music Literature (1-1-1). Lec. and Lab. 3-3-3.

The presentation of instrumental solo, opera and symphonic music, acquainting the student with musical compositions and composers with emphasis on music literature of the past three centuries.

353-54. Music History I-II (3-3).

The development of music from early times to the present day. Lectures, recorded examples, readings.

361-62-63. Conducting (3-1-1). Pr., MU 133.

An elementary course in choral and instrumental conducting and interpretation, score reading and basic baton techniques.

371-72-73. Music Composition I-II-III (3-3-3). Pr., MU 233.

The analysis, study, and writing of musical compositions in small, compound, and larger musical forms with emphasis on both stylistic and individual creative writing.

401. Applied Techniques in Contrapuntal Music (5). Pr., junior standing and MU 233.

A functional course in the study and writing of the invention, fugue, chorale variations. Continued exercises in general musicianship.

403. Modern Music (5). Pr., junior standing and MU 233.

A survey course of representative contemporary composers and their methods, techniques and forms.

406. Organization of Choral Music (5).

Theory and practice of the organization and administration of choral music in the schools.

407-8. Organization of Instrumental Music I-II (5-5).

Theory and Practice of the organization and administration of instrumental and Band Music in the schools.

409. Marching Band Techniques (5).

A study of fundamental methods and procedures of the Marching Band.

411. Public School Music (5). Pr., junior standing.

A course designed to present the entire public school music curriculum with special emphasis on the music program in the elementary school.

421. Care and Repair of Musical Instruments (1). Lec. 1, Lab. 3. Pr., senior standing.

The selection, care and repair of woodwind, brass and string instruments with emphasis on adjustments which should be made by the instrumental director.

422-3-4. Tuning and Repairing Pianos (1-1-1). Lab. 3-3-3. Pr., senior standing.

Basic principles of piano tuning such as tuning unisons, octaves, setting temperaments, etc., simple action and damper repair, action regulating and the replacing of strings and worn-out parts which can normally be done by the music instructor.

431. Piano Literature (5). Pr., junior standing and MU 341 or by permission.

A performance course to acquaint the student with a wide knowledge of pianoforte literature; assigned listening, playing and lectures.

432. Choral Literature (5). Pr., junior standing.

A survey of available music for chorus and glee clubs with special emphasis on choral music for high school.

433. Vocal Literature (5). Pr., junior standing and MU 344 or by permission.

A practical study of vocal literature, master songs and their interpretation; accompaniments and transposition.

451. The Symphony (3).

A study of the development of the symphony orchestra, analyzing the major symphonic compositions of the 18th and 19th centuries.

465. Orchestration (5). Pr., MU 233 or by permission.

A study of the range and quality of orchestral instruments; techniques of cross-cueing reduced score, piano score, and arrangement of choirs.

For courses in elementary and secondary public school music, directed practice teaching of music, and the teaching of applied music, see pages 257-262.

General Elective Courses

- 101. Fundamentals of Music I (3).** Open to students in all curricula.
An introductory course in the rudiments of music embracing basic terms, notations, rhythm, tonal system, vocal and piano score reading. May not be taken for credit by Music Minors or Majors.
- 102. Fundamentals of Music II (2).** Pr., MU 101. Open to students in all curricula.
May not be taken for credit by Music Minors or Majors.
This additional two hours or its equivalent is prerequisite to Music Theory I (MU 131).
- 351. Appreciation of Music (3).** May not be taken for credit by Music Minors or Majors.
Outstanding composers and compositions. No previous music training required; an orientation in the art of listening.
- 352. Masterpieces of Music (3).** May not be taken for credit by Music Minors or Majors.
A study of the representative musical works of each great period of musical history. No previous music training required.
- 365. Music Arranging (3).** By permission.
A project course in arranging various combinations from quartet to symphonic band, and arranging for solo and choral groups.

Group Performance Courses*

- 121-22-23. Glee Club (1 hour credit per quarter).**
The MEN'S GLEE CLUB and the WOMEN'S GLEE CLUB are study and performing groups open to any Auburn student. No previous experience in group singing is required. Glee Club may be taken with or without credit.
- 224-25-26. Mixed Chorus (1 hour credit per quarter).**
The MIXED CHORUS is a large performing group open to any Auburn student. No previous experience in group singing is required. This group annually performs Handel's "Messiah", and other large choral compositions. Mixed Chorus may be taken with or without credit.
- 227-28-29. Concert Choir (1 hour credit per quarter).**
The CONCERT CHOIR is a smaller mixed chorus for the study and performance of serious choral literature; open to any Auburn student by audition only. Concert Choir may be taken with or without credit.
- 124-25-26. Concert Band (1 hour credit per quarter).**
Members of the Band are selected during the first week of each quarter at the regular meeting hour. The Band will require a minimum of 5 rehearsal hours per week from all members. Extra rehearsals may be scheduled as necessary. Band members will be required to be present at all rehearsals and all public performances. The Concert Band may normally be expected to perform at two campus programs and one concert tour each year. The Concert Band may be called upon from time to time to serve as a marching organization for various public parades. Concert Band may be taken with or without credit.
- 127-28-29. Orchestra (1 hour credit per quarter).**
Members of the symphonic orchestra are selected by try-outs held during the first week of each quarter at the regular meeting hour. Orchestra may be taken with or without credit.
- 221-22-23. Marching Band (1 hour credit per quarter).**
This band provides music for the athletic contests and half-time shows at football games as well as various parades, pep rallies, and other campus and off-campus events which use marching band. The Marching Band during the fall quarter, will rehearse a minimum of 9 hours per week. Physical Education may be waived for students during the fall quarters in which they are members of the Marching Band. (See Band Director for details). Marching Band may be taken with or without credit.
- 321-22-23. Opera Workshop (1 hour credit per quarter).**
The Opera Workshop is open to all students interested in any phase of opera, including performance, stage-craft, make-up, conducting, and coaching. A minimum of three hours per week rehearsal or stage-craft is required and extra time may be scheduled as necessary. Opera Workshop may be taken with or without credit.
- 324-25-26. Music Ensemble (1 hour credit per quarter). (By permission.)**
A course primarily for advanced musicians for the study and performance of musical compositions for small instrumental and vocal groups requiring a minimum rehearsal of three hours per week. Music Ensemble may be taken with or without credit.

* With the Dean's approval maximum credit permitted for regular college students in Group Performance Courses is 6 quarter hours; for Music Majors, 12 quarter hours.

Applied Music**

Piano

041-42-43. Elementary Piano (No credit).

General keyboard facility; sight reading of folk tunes and easier classics; repertory of simple piano material; harmonization and transposition of folk tunes and familiar songs; elementary improvisation.

141-42-43. Intermediate Piano (1, 2, or 3 hrs. per quarter). Pr., MU 043 or 105.

Individual instruction in piano. The student is trained in correct touch and reliable technique, by playing correctly all major and minor scales in moderately rapid tempo, broken chords in octave positions in all keys by establishing systematic methods of practice and by performing typical standard etudes, such as: Czerny, op. 299, Book I; Heller, Op. 46 and 47; Bach, Little Preludes; a few Bach Two-part Inventions; and compositions corresponding in difficulty to Haydn Sonata No. 11, G. Major No. 20 (Schirmer); Mozart, Sonata C. Major No. 3, F Major No. 13 (Schirmer); Beethoven, Variations on Nel cor piu, Sonata Op. 49, No. 1; Schubert, impromptu. Op. 142 No. 2, etc.

241-42-43. College Piano I (1, 2, or 3 hrs. per quarter). Pr., Acceptable playing of works from MU 143.

Bach, French Suites, and Two-part Inventions; Czerny, Studies; Beethoven, Sonatas in grade of difficulty to Op. 14 No. 1; Romantic and Contemporary pieces recommended by the instructor.

341-42-43. College Piano II (1, 2, or 3 hrs. per quarter). Pr., Acceptable playing of works from MU 243.

Bach, Well Tempered Clavichord, Three-part Inventions; Czerny, Studies, Op. 740; Beethoven, Sonatas in grade of difficulty to Op. 2, No. 1; Romantic and Contemporary pieces.

441-42-43. Advanced College Piano (1, 2, or 3 hrs. per quarter). Pr., Acceptable playing of works from MU 343.

Bach, Well Tempered Clavichord; Chopin, Etudes; Brahms, Schumann and more advanced work in Romantic and Contemporary composers.

Voice

044-45-46. Elementary Voice (No credit).

First principles of voice production, diction and singing; song material for development toward performance. Exercises for voicing and facility; correct posture and breathing.

144-45-46. Intermediate Voice (1, 2, or 3 hrs. per quarter). Pr., MU 046 or 108.

Individual instruction in singing. The student is trained to sing on pitch with correct phrasing and musical intelligence standard songs in good English (the simplest classics are recommended). The singing of simple songs at sight is stressed. Some knowledge of piano is urgently recommended.

244-45-46. Voice I (1, 2, or 3 hrs. per quarter). Pr., Acceptable singing of songs from MU 146.

The study of tone production, vocal resonance and mastery of correct breathing; vowels and consonants in their relation to the singing and speaking voice; vocalises and arpeggios; songs of moderate difficulty in correct intonation and interpretation. Italian classics recommended.

344-45-46. Voice II (1, 2, or 3 hrs. per quarter). Pr., Acceptable singing of songs from MU 246.

Continuation of the study of voice production, drill in diction and phrasing. French, German or Italian art songs. Contemporary American composers. Oratorio or Opera Arias.

444-45-46. Advanced Voice (1, 2, or 3 hrs. per quarter). Pr., Acceptable singing of works from MU 346.

A thorough study of song literature, including the works of Brahms, Schumann, Wolf, Schubert, and French masters. Concentration of perfecting vocal techniques on performer's level.

Organ

047-48-49. Elementary Organ (No credit).

An introduction to organ playing: Jennings, First Elements of Organ Technic. Studies for manuals and pedals. The technique of hymn-playing. Telemann, Choral Preludes.

147-48-49. Intermediate Organ (1, 2, or 3 hrs. per quarter). Pr., MU 049 or equivalent.

Technical studies for manuals and pedals. Elementary improvisation. Transcription at sight from simple piano accompaniments. Bach, short Preludes and Fugues (E Minor, G Minor); Chorale Preludes for manuals.

** Only MU majors in Bachelor of Arts curriculum may receive more than 1 hour credit per quarter for each applied music course.

- 247-48-49. College Organ I (1, 2, or 3 hrs. per quarter).** Pr., MU 149 or equivalent.
Continued improvisation and technical studies. Principles of modulation. Bach, short Preludes and Fugues, Chorale Preludes from "The Liturgical Year." Reger, Chorale Preludes.
- 347-48-49. College Organ II (1, 2, or 3 hrs. per quarter).** Pr., MU 249.
Technical equipment for organ works of more than medium difficulty. Bach, Chorale Preludes, Prelude and Fugue in E Minor, Fugue in G Minor; Mendelssohn, Second Sonata; Franck; Prelude, Fugue and Variations. Selected works by Buxtehude, Liszt, Rheinbreger, Karg-Elert, Guilmant and others.
- 447-48-49. Advanced Organ (1, 2, or 3 hrs. per quarter).** Pr., MU 349.
Senior course embracing the more difficult organ literature, such as the larger works of Bach; Mendelssohn, Preludes and Fugues, and Sonatas; Franck, Chorales. Organ Symphonies by Widor and Vierne. Modern compositions and shorter recital pieces.

Instrumental

Strings

- 091-92-93. Elementary Strings (No credit).**
Rudiments of producing tone, bowing; fingering and scales in one octave, as found in the first position. Simple pieces and studies.
- 191-92-93. Intermediate Strings (1, 2, or 3 hrs. per quarter).** Pr., MU 093.
Individual instruction in playing a selected instrument in strings. The student is trained in technical facility in major and minor scales, and arpeggios in all scales, and in simple solo works. For violin, such pieces will be of the difficulty of: Kreutzer Etudes, No. 1-32; the Viotti Concerto, No. 23; the deBeriot Concerti, No. 7 and 9; and the Tartini G minor Sonata. For other string instruments, pieces of a comparable level will be selected.
- 291-92-93. Strings I (1, 2, or 3 hrs. per quarter).**
Mastery of techniques for scales and broken chords in three octaves. Continued study in solo playing. Violin etudes; Kreutzer, Fiorillo, Mazas. Pieces of medium difficulty; Mozart, Handel and Schubert sonatas. Concerti: Vivaldi, A minor, Viotti No. 22, Mozart M major, deBeriot Nos. 7 and 9.
- 391-92-93. Strings II (1, 2, or 3 hrs. per quarter).**
Scales and broken chords at increased tempo, double stops. Etudes: Shode, Rovelli, Wieniawski. The easier Bach sonatas for violin and piano; Spohr concerti No. 2, 6, 9. All students should give evidence of ability to read at sight compositions of moderate difficulty, and should demonstrate ability in ensembles, and symphonic works.
- 491-92-93. Advanced Strings (1, 2, or 3 hrs. per quarter).**
A thorough study of the virtuoso instrumental literature. Etudes: Wieniawski, Locatelli caprices. Bach solo sonatas, Paganini caprices. Concerti: Mendelsohn, Lalo, St. Saens.

Woodwind

- 094-95-96. Elementary Woodwind (No credit).**
Tone production, fingering and scales in simple keys.
- 194-95-96. Intermediate Woodwind (1, 2, or 3 hrs. per quarter).**
Training in facility and control of intonation, embouchure, phrasing and control.
- 294-95-96. College Woodwind I (1, 2, or 3 hrs. per quarter).**
Continued study for students who have had foundational training. The student finishing this course should be able to play 1st chair parts in school bands or 2nd chair parts in school symphonies. Studies: Klose, Book 1 for clarinets; Nieman-Labate for Oboe; Pares for Flute and Weissenborn (1st half) for Bassoon.
- 394-95-96. College Woodwind II (1, 2, or 3 hrs. per quarter).**
Further study in technical methods outlined above. Special stress on expression, and interpretation; solo passages from standard symphonic work.
- 494-95-96. Advanced Woodwind (1, 2, or 3 hrs. per quarter).**
Advanced study with special emphasis on training in outstanding pieces of literature; designed to prepare the student for his major Senior Recital, as well as the mastery of his instrument.

Brass

- 097-98-99. Elementary Brass (No credit).**
Rudiments of tone production, fingering, and reading music.
- 197-98-99. Intermediate Brass (1, 2, or 3 hrs. per quarter).**
Development of tone production and special techniques of the individual instruments, including scale and chord work in all major keys.

297-98-99. College Brass I (1, 2, or 3 hrs. per quarter).

Scales and chord work in all keys, technique exercises of medium difficulty, and some work in easy literature.

397-98-99. College Brass II (1, 2, or 3 hrs. per quarter).

Continuing techniques study involving difficult etude study, flexibility exercises, and difficult scale and chord work in all keys. Literature study of medium and medium difficult works written by the master composers.

497-98-99. Advanced Brass (1, 2, or 3 hrs. per quarter).

Continuing literature study involving the most difficult of the great works for the instrument; development of a high degree of musicianship to prepare the student for public performance.

Courses in Applied Music are open to any student of the institution upon permission of the head of the department. Courses may be taken with or without academic credit. Admission to courses on the 200, 300, and 400 levels will be granted only after the student has demonstrated fulfillment of the prerequisite by passing satisfactorily a performance test based on typical exercises and compositions selected from the preceding course.

Since achievement in music is cumulative, it will normally take three quarters of study to meet the requirements for each successive grade of execution. These requirements conform to standards established by the National Association of Schools of Music.

Each course in Applied Music with an individual instructor is based on one half-hour lesson per week for the academic quarter. Many students, however, desire two half-hour lessons per week. Such an arrangement is advantageous to the student and can be made, but it does not carry additional credit.

The amount of credit in Applied Music is based on the following practice schedule:

- 1 cr. hr.—4 hours weekly practice
- 2 cr. hrs.—8 hours weekly practice
- 3 cr. hrs.—12 hours weekly practice

Only MU students on the BA degree may receive more than 1 hour credit per quarter for each applied music course.

Applied Music Fees (Per Quarter)

One half-hour lesson per week	\$20.00
Two half-hour lessons per week	30.00
Class instruction in piano, etc.	5.00
Use of practice room, one hour per day	3.00
Use of practice room, two hours per day	5.00
Instrument rental	3.00

Class Instruction in Applied Music

The Music Department offers a number of classes in Applied Music open to Music Majors and Minors and to regularly registered college students who have had previous music training. These classes meet two hours per week and carry one hour credit. Tuition fee \$5.00. (Minimum of 12 students per class.)

103-4-5. Piano Class (1-1-1). (2-2-2 lec. and lab.).

Class instruction and practice in the rudiments of music as applied to piano playing. (See above for fee.)

106-7-8. Voice Class (1-1-1). (2-2-2 lec. and lab.).

Class instruction and practice in the rudiments of music as applied to piano playing. (See above for fee.)

109-10-11. String Instruments Class (1-1-1). (2-2-2 lec. and lab.).

Class instruction and practice in the rudiments of music as applied, to violin, viola, cello and contrabass playing. (See above for fee.)

112-13-14. Brass Instruments Class (1-1-1). (2-2-2 lec. and lab.).

Class instruction and practice in the rudiments of music as applied to playing on trumpet, trombone and other brass instruments. (See above for fee.)

115-16-17. Woodwind Instruments Class (1-1-1). (2-2-2 lec. and lab.).

Class instruction and practice in the rudiments of music as applied to playing on clarinet, oboe, bassoon, flute and other woodwind instruments. (See above for fee.)

MU 118. Percussion Instruments Class (1). (2 labs.).

Class instruction and practice in the rudiments of music as applied to playing percussion instruments; drums, bells, cymbals, triangles, tympani, etc. (See above for fee.)

GRADUATE COURSES

***600. Music in the Culture (5).**

A study of esthetic values in the contemporary scene with particular emphasis on music as it fits in the social scheme.

***601-2. Advanced Musical Analysis (5-5).**

A comparative study of the functional aspect of music analysis. Examples from a variety of great music literature are studied by score and recording.

603. Brass Instruments Techniques (1). Lec. 1, Lab. 3.

Course designed to work out specific problems with graduate students in furthering their knowledge of and skill on brass instruments.

604. Woodwind Instruments Techniques (1). Lec. 1, Lab. 3.

Course designed to work out specific problems with graduate students in furthering their knowledge of and skill on woodwind instruments.

605. Percussion Instruments Techniques (1). Lec. 1, Lab. 3.

Course designed to work out specific problems with graduate students in furthering their knowledge of and skill on percussion instruments.

621. Instrumental Music Literature (5).

A study through performance and listening of the great instrumental music from the Renaissance to the present to acquaint musicians with original music for the various media, including solos, small and large ensembles, string and wind.

641-2-3. Graduate Study in Applied Music (1-1-1).

Advanced private study to further the self-improvement and skill in the graduate students' performing medium. (Special fee—see under Applied Music Fees.)

661-2. Advanced Instrumental and Choral Conducting (1-1). Lec. 1, Lab. 2.

Advanced conducting skills in handling instrumental and choral groups, problems in conducting and score reading along with desirable baton techniques.

665-6. Scoring for Instruments (5-5).

Practical arranging and transcription for use in all musical situations including beginners, and marching bands. Each individual will choose his own project. May be substituted for MU 601-2.

699. Research and Thesis (credit to be arranged).**Naval Science (NS)**

(List of courses will be found on page 172)

Pharmacy (PY)†

Professors Coker, Hargreaves, and Hocking

Associate Professors Rash and Williams

Assistant Professor Franke

Pharmacy

Associate Professor Rash

Assistant Professor Franke

101. Introduction to Pharmacy (3).

Orientation and general survey of the scope of pharmacy, its organizations and literature with a brief introduction into principles of pharmacy. Coker

102. Pharmaceutical Arithmetic (5). Pr., PY 101.

Calculations necessary to the practice of pharmacy. Among the topics treated are weights and measures, specific gravity, specific volume, percentage solutions, concentration and dilution, alligation and commercial calculations. Rash

202. Pharmaceutical Terminology (2). Pr., third year standing. Franke, Hargreaves

Common terms and abbreviations used in the professional and scientific aspects of pharmacy and medicine.

204. Pharmaceutical Technology (5). Lec. 3, Lab. 6. Pr., CH 103-104, PY 101.

Consists of a study of the aspects of metrology as related to pharmacy, the general physical properties of drugs, and the physics of solutions, extraction, sterilization, and preservation. The laboratory is designed to permit limited controlled experiments verifying fact and illustrating theory presented in lecture. Franke

* Required of all graduate music education majors.

† Each student registered in a pharmacy course which has a laboratory in connection with it will have to purchase a punch card from cashier's office before he will be assigned a desk.

206. **History of Pharmacy (3).** Pr., PY 204. **Franke**
A general survey of the history of pharmacy designed to provide a knowledge of the heritage of the profession.
303. **Pharmaceutical Technology (5).** Lec. 3, Lab. 6. Pr., PY 204. **Franke**
Official preparations are discussed with regard to their general pharmaceutical aspects with emphasis on chemistry and posology. The laboratory consists of the preparation of official and non-official products selected for the special techniques and skills involved.
304. **Physical Pharmacy (4).** Lec. 3, Lab. 3. Pr., PY 303. **Franke**
Pharmaceutical applications of lyophilic colloids, surfactants, hydrogen ion concentration and tonicity to emulsions, suspensions, and solutions.
308. **Hospital Pharmacy Administration (3).** Pr., fourth year standing. **Rash**
The development of hospitals, their place in society, importance and place of pharmacy in hospitals, administrative and policy making aspects together with interdepartmental relationships.
400. **Dispensing Pharmacy I (5).** Lec. 3, Lab. 6. Pr., PY 304. **Rash**
The compounding of prescriptions of an elementary nature, illustrating virtually all types of prescriptions.
401. **Dispensing Pharmacy II (5).** Lec. 3, Lab. 6. Pr., PY 400. **Rash**
Advanced dispensing pharmacy and prescription laboratory. Prescriptions of an advanced nature are compounded. Special attention is given to the subject of incompatibilities.
402. **Dispensing Pharmacy III (5).** Lec. 3, Lab. 6. Pr., PY 401. **Rash**
Practical pharmaceutical compounding and dispensing, related to modern drug outlets. Certain aspects of drug detailing will be discussed.
409. **Applied Hospital Pharmacy (3).** Lec. 1, Lab. 6. Pr., PY 303 and 400. **Rash**
Deals with the application of pharmaceutical practices and procedures to hospital pharmacy.
410. **Advanced Dispensing Pharmacy (5).** Lec. 3, Lab. 6. Pr., PY 401. **Rash**
The more complex problems in dispensing pharmacy with correlated laboratory work.
411. **Survey of Pharmaceutical Manufacturing (3).** Lec. 2, Lab. 3. Pr., PY 304. **Rash, Franke**
Manufacturing procedures and operations. In the laboratory selected large scale production problems are carried out to completion.
412. **Public and Professional Relations (3).** Pr., fifth year standing. **Rash, Franke**
413. **Special Problems (1-3).** Pr., fourth year standing. **Staff**

COURSES FOR GRADUATE STUDENTS

601. **Sterile Solutions and Ampuls (3).** Lec. 1, Lab. 6. Pr., PY 304 and 401.
Production of both large and small volume parenteral solutions.
602. **Tablet Manufacture (3).** Lec. 1, Lab. 6. Pr., PY 304 and 401.
Essentials in the manufacture and coating of compressed tablets.
603. **Product Development (3).** Lec. 1, Lab. 6. Pr., consent of instructor.
Formulation, evaluation and materials costs of pharmaceutical and cosmetic preparations.

Pharmaceutical Chemistry

Professor Hargreaves

201. **Inorganic Pharmaceutical Chemistry (5).** Pr., CH 205-206.
The official inorganic chemicals; their manufacture, chemical properties, pharmaceutical and therapeutic uses, doses and preparations. Tests for identity and purity, together with assay methods are considered.
301. **Organic Pharmaceutical Chemistry (5).** Pr., PY 201, CH 207-208.
The official organic chemicals; their manufacture, chemical properties, trade names, pharmaceutical and therapeutic uses, doses and preparations.
302. **Organic Pharmaceutical Chemistry (5).** Pr., PY 301.
A continuation of PY 301.
403. **Toxicology and First Aid (5).** Pr., PY 406, CH 208.
Fundamentals of first aid are discussed along with a study of the isolation, identification, symptoms and treatment of the more common poisons.
404. **Chemistry of Natural Products (5).** Pr., PY 302.
Chemistry and nomenclature of fatty oils, volatile oils, steroids, glucosides, alkaloids, and other natural plant products.
420. **Pharmaceutical Assay (5).** Lec. 2, Lab. 9. Pr., CH 206, 208.
Pharmaceutical assay procedures not covered in general quantitative analysis, physical and chemical constants of fatty oils, proximate assay of vegetable drugs, official arsenic test, alcohol determination, alkaloidal chemistry and the assay of alkaloidal drugs.

421. **Advanced Inorganic Pharmaceutical Chemistry (5).** Pr., PY 201 and fourth year standing.

A critical study of the commercial aspects of chemicals of medical interest; radioactivity and the preparation, handling and use of isotopes used as diagnostic or therapeutic agents.

COURSES FOR GRADUATE STUDENTS

620. **Chemistry of Synthetic Drugs (5).** Pr., PY 301 and PY 302.

Historical development of medical chemistry, relation of chemical structure and biological activity, physical properties and biological activity, general anesthetics, local anesthetics, hypnotics and sedatives, anti-convulsant drugs, analgetics, analeptics, cardiovascular drugs, diuretics, anticoagulants, adrenergic drugs, parasympathetic agents, antispasmodics, antihistaminics, diagnostic agents, thyroxin and antithyroid agents, vitamins.

621. **Chemistry of Synthetic Drugs (5).** Pr., PY 620.

A continuation of PY 620; hormones, essential amino and fatty acids, chemotherapy, theories of metabolite antagonism, dyestuffs in chemotherapy, sulfanamides, antimalarials, chemotherapy of acid-fast infections, metal-free drugs used in tropical diseases, antibiotics, antifungal agents, anthelmintics, organo-metallic chemotherapeutic compounds, antiseptics.

622. **Synthesis of Drugs (5).** Lec. 2, Lab. 9. Pr. or coreq., PY 620.

Laboratory procedures in the synthesis of intermediates and representative compounds studied in PY 620-621.

623. **Synthesis of Drugs (5).** Lec. 2, Lab. 9. Pr., PY 622.

A continuation of PY 622.

624. **Food and Drug Analysis (5).** Lec. 2, Lab. 9. Pr., CH 206, CH 208 and PY 320.

Composition and methods of analysis of leading food, drug, and cosmetic products.

626. **Alkaloid Chemistry (5).** Pr., PY 620 or consent of instructor.

Structure determination, chemistry and synthesis of alkaloids with emphasis on the alkaloids of pharmacological and pharmaceutical importance.

628. **Steroid Chemistry (5).** Pr., PY 620 or consent of instructor.

Structure determination, chemistry, synthesis and structure relationships of steroids of pharmacological and pharmaceutical importance.

Pharmacology

Professor Coker

Associate Professor Williams

203. **Pharmacology I (5).** Lec. 4, Lab. 3. Pr., ZY 101-102.

Williams

The essentials of anatomy and physiology including a brief consideration of elements of histology and embryology with an introduction to pharmacodynamics as related to these sciences.

300. **Public Health (5).** Pr., VM 200, 204.

Staff

Common communicable diseases including the course and symptoms of the disease, the causative agent, mode of transmission, and control measures including hygienic and sanitation measures as well as immunization procedures. A survey of Federal and State Health agency activities is included.

309. **Public Health (3).** General elective. Pr., junior standing.

Staff

A non-technical survey of the common communicable diseases including the causative agents modes of transmission and symptoms. Hygienic, sanitation and immunization control measures are discussed along with the roles of Federal and State Health agencies. (Not open to pharmacy majors.)

405. **Pharmacology II (5).** Lec. 4, Lab. 3. Pr., PY 203, CH 301.

Williams

A pharmacological study of the official and more important non-official drugs. Absorption and fate, mechanism of action, pharmacological relationships and toxicology, together with a brief coverage of pathological conditions indicating specific uses in therapy are main considerations.

406. **Pharmacology III (5).** Lec. 4, Lab. 3. Pr., PY 203, PY 405.

Williams

A continuation of PY 405. Topics for consideration are the vitamins, hormones, biologicals and antibiotics with major emphasis on endocrine products and deficiency states as related to specific therapy.

407. **Chemotherapeutic Drugs (3).** Pr., PY 406.

Williams

Structure, action relationship of drugs and their use in inhibiting or destroying microorganisms.

430. **Pharmaceutical Techniques (5).** Lec. 4, Lab. 3. Pr., PY 203 and fourth year standing.

Williams

Principles and techniques of surgical procedures used in drug testing with animals, including preparation of the animal, asepsis, and care of surgical instruments.

431. **Advanced Pharmacology IV (5).** Lec. 4, Lab. 3. Pr., PY 405. Williams
This course provides a foundation for further advanced studies in pharmacology. It consists in the main of macroscopic and microscopic study of animal tissues and the effect thereon of drugs in therapeutic and toxic quantities.

COURSES FOR GRADUATE STUDENTS

631. **Advanced Pharmacology (5).** Pr., PY 430 and PY 431.
An advanced study of drug actions with emphasis on mechanism of action at cellular level, and relation between chemical structure and pharmacological response.
633. **Bioassay (5).** Lec. 3, Lab. 6. Pr., PY 430; Pr. or Coreq., one course in Statistics.
Principles and techniques of bioassay with primary attention to official bioassay methods.
637. **Pharmacology Seminar (3).** Pr., PY 430.
This course familiarizes the student with pharmacological publications covering recent developments in the field; aids in developing an ability to evaluate contents of such literature and to give practice in presenting and reviewing scientific papers.

Pharmacognosy

Professor Hocking

306. **Elementary Pharmacognosy (5).** Lec. 4, Lab. 3. Pr., BY 205. Hocking
An introduction to pharmacognosy, the science of crude drugs and their components with drugs arranged according to a modern biochemical scheme. Naturally occurring medicinally valuable substances are considered as products of biological origin and as chemical materials.
307. **Pharmacognosy (5).** Lec. 4, Lab. 3. Pr., PY 306. Hocking
A continuation of PY 306 including testing and assaying of natural products.
440. **Histology of Natural Products (3).** Lec. 2, Lab. 3. Pr., PY 203 and fourth year standing. Hocking
Micro-chemical, micro-analytical, and micro-sectioning techniques, including methods of fixation, dehydration, embedding, and staining tissues in the preparation of permanent mounts on microslides, with use of microtome and micro-dissection techniques.
441. **Commercial Pharmacognosy (3).** Pr., fourth year standing. Hocking
Commercial aspects of crude drugs, both wild and cultivated, foreign and domestic; composition and usage of pesticides.

COURSES FOR GRADUATE STUDENTS

640. **Advanced Pharmacognosy (5).** Lec. 3, Lab. 6. Pr., PY 307 or equivalent.
Comprehensive study of both official and unofficial crude drugs conducted macroscopically and microscopically; techniques of use of camera lucida, microtome, and microphotographic equipment; pharmacology of previously undescribed drugs.
641. **Advanced Microanalysis (5).** Lec. 2, Lab. 9. Pr., permission of instructor.
Technics of microchemistry and microscope analysis of crude plants, animals, and materials; identification of unknown materials.
642. **Histology of Medicinal Plants (5).** Lec. 3, Lab. 6. Pr., PY 440.
Microscopic structure of medicinal plants in fresh or preserved state as a means of understanding method of origination of plant principles.
699. **Research and Thesis (5).**

Pharmacy Administration

205. **Drug Marketing (3).** Pr., EC 200. Rash
Basic principles of marketing drug products from the manufacturer to the consumer.
305. **Pharmaceutical Jurisprudence (2).** Pr., fourth year standing. Staff
Covers legal aspects of pharmaceutical practice, giving primary consideration to State and Federal regulations bearing thereon; including Alabama State Practice Act, Harrison Anti-Narcotic Act, and Food and Drug Regulations of the Federal Government.
408. **Pharmaceutical Economics (5).** Pr., EC 200, EC 211. Staff
The elements of drug store management; drug store layout, buying, sales promotion, salesmanship, merchandising, and other affiliated considerations in the successful operation of a retail drug store.

Philosophy (PA)

Professor Melzer

These courses introduce the student to the fundamental ideas upon which our civilization is based and encourage him to investigate the meaning of these ideas for individual and group living. They may be elected by juniors and seniors, and by sophomores at the discretion of the instructor, but are not open to freshmen.

301. Introduction to Philosophy (3). General elective.

An introductory survey of the great philosophical systems which underlie and support western civilization. (Credit for this course excludes credit for PA 304.)

302. Introduction to Ethics (3). General elective.

An introduction to the general principal of morality as applied to human conduct. (Credit for this course excludes credit for PA 305.)

307. Scientific Reasoning (5).

A general course in the principles of logical reasoning as employed by scientists. Not open to students with credit in PA 308.

308. Introduction to Logic (3). General elective.

Designed to acquaint the student with the principles of logical thinking with emphasis upon contemporary scientific procedures. Not open to students with credit in PA 307.

320. Formal Logic (5).

An extended treatment of symbolic logic. (PA 308 is desirable but not necessary for this course.)

325. Aesthetics (5).

Inquiry into the history of aesthetic theory made with a view of determining foundations of critical reflection on the arts of literature, drama, painting, sculpture, architecture, and music.

330. Philosophy of Religion (5).

A philosophical examination of religious ideas including such topics as the origin of religion; the nature of religion; the various concepts of God, the soul, immortality; and internal and external criticisms of religion.

410. Ancient and Medieval Philosophy (5).

Philosophical thought of ancient Greece and Rome, and of medieval Christendom.

420. Modern Philosophy (5).

Philosophical thought from Descartes through Kant.

430. Contemporary Philosophy (5).

Philosophical thought from James through the present time.

440. American Philosophy (5).

American philosophical thought from colonial times to William James.

Physical Education and Athletics, Men (PE)

Director Jeff Beard

Professors Hutsell, Jordan, and Umbach (Head Professor)

Associate Professor Young

Assistant Professors Dragoin, Martincic, Rosen

*Instructors Atkins, Belcher, Bradberry, Connally, Copas,
Dooley, Eaves, Herring, Howard, Lorendo, Lynn, McNair,
Russell, Senn, Tomlin, Washington.*

1. Physical Education is required for six consecutive quarters. Only one credit per quarter is permitted or transferable to meet the six-quarter requirement.

2. Unless otherwise approved by the student's Dean, each student who lacks physical education credits must register for physical education in his first and succeeding quarters of residence until all physical education requirements are met.

3. All undergraduates under 26 years of age must take physical education until requirements are met.

4. One quarter hour credit is earned for each quarter (maximum of 6 quarter hours in activity courses allowed on degree). No duplication of course is permitted except in varsity sports.

5. Students who have had active military service may receive credit in physical education as follows: for less than 6 months, no credit; for 6 months to one year, 1 quarter hour in Basic Physical Education, PE 120; for more than one year, 6 quarter hours.

6. A medical examination is required of all students before being admitted into activity classes. A card stating the physical condition of each student must be filed in the Infirmary and Physical Education Department before assignment of activities can be approved.

Students are classified in regular, adapted, restricted and permanent excuse classes, according to results of the medical examination and recommendation of examining physician.

A. "Regular"—This classification permits the student to engage in any activity offered by the department.

B. "Adapted"—This classification is for those students with slightly defective conditions (conditions not serious enough to necessitate excuse from Basic Military courses, but serious enough to suggest special attention).

C. "Restricted"—This classification is for students with marked physical handicaps (conditions so serious that they necessitate excuse from Basic Military courses and the regular physical education courses).

D. "Permanent Excuse"—This classification is for those students who for medical reasons are unable to participate in the physical education program whatsoever. An exemption card must be filled out by the family physician and the student assigned to this classification by the college physician.

7. Students registered in restrictive classes are required to have additional medical examinations for reclassification into regular classes, or from regular to restricted classes. These classes will be assigned whenever, in the opinion of the college physician, the assignment is necessary.

8. Those students entering college as first quarter freshmen with the regular health classification shall take Basic Physical Education.

9. Students who are placed in the adapted program may be required to take Basic Physical Education, depending on their physical disability.

10. In order to receive a well-rounded program of activities, students are required to pass one course in each of the following areas: Basic Physical Education, Team Sports or Rhythms, Individual Sports, Gymnastic Sports, Aquatic Sports, and Combative Sports. They are permitted a choice of one sport in each of these areas.

Activities (PE)

	Course No.		Course No.
One Quarter Basic Physical Education		One Quarter Gymnastic Sports	
(a) Basic Physical Education	120	(a) Apparatus (Elementary)	121
One Quarter Team Sports or Rhythms		(b) Tumbling (Elementary)	123
Team Sports:		(c) Trampoline	223
(a) Basketball	131	One Quarter Individual Sports	
(b) Soccer	126	(a) Archery	130
(c) Softball	129	(b) Badminton	133
(d) Touch Football	127	(c) Golf	134
(e) Volleyball	128	(d) Tennis	132
(f) Speedball	138	(e) Track	124
Rhythms:		(f) Weight Training	137
(a) Folk Dance	143	(g) Angling	139
(b) Modern Dance	145	(h) Rifle Marksmanship	141
(c) Tap Dance	146	Varsity Sports	
(d) Social Dance	147	(a) Baseball	338
One Quarter Combative Sports		(b) Basketball	331
(a) Boxing	135	(c) Cross Country	339
(b) Fencing	136	(d) Football	327
(c) Wrestling	125	(e) Golf	334
One Quarter Aquatic Sports		(f) Swimming	322
(a) Basic Survival Swimming	119	(g) Tennis	332
(b) Advanced Survival Swimming	122	(h) Track	324
(c) Swimming (Advanced)	222	(i) Wrestling	325
(d) Life Saving	237		

* Open to students in Air, Army and Navy ROTC.

Physical Education for Women (PW)

Professor Land (Head of Department)

Associate Professor Donahoo

Assistant Professors Lawler, Turner, and Walton

Instructors Douthit, Moore, Jackson, and Kazmierczak

Requirements and Standards

1. Physical Education is required for six consecutive quarters. Only one credit per quarter in activity courses is permitted or transferable to meet the six-quarter requirement.

2. Unless otherwise approved by the student's Dean, each student who lacks physical education credits must register for physical education in her first and succeeding quarters of residence until all physical education requirements have been met.

3. All undergraduates under 26 years of age take physical education until requirements are met.

4. One quarter hour of credit is earned for each quarter with a maximum of six quarter hours credit allowed on the degree.

5. A medical examination is required of all students before being admitted into activity classes. A card stating the physical condition of each student must be filed in the Infirmary and Physical Education Department before assignment of activities can be approved.

Students are classified in regular, restrictive, rest, and functional classes, according to results of medical examination and recommendation of examining physician.

A. "Regular"—for students having no physical defects—involves participation in vigorous activities such as: team sports, dual and individual sports, and dance.

B. "Restrictive"—for students having temporary and permanent physical defects—involves participation in activities of a limited nature such as: table tennis, shuffleboard, dart games, archery, bowling and rhythmical work.

C. "Rest"—for students having recent illness, operations or any condition for which rest instead of activity is advised.

D. "Functional"—designed for the individual student on the basis of physical needs.

E. Students registered in restrictive classes are required to have additional medical examinations for reclassification into regular classes; or from regular to restrictive or rest classes. These classes will be assigned whenever, in the opinion of the college physician, the assignment is necessary.

6. Intramural program:

A. Students in restrictive physical education cannot participate in the Intramural sports program.

B. All participants in scheduled Intramural Sports must be checked by the University Medical Staff before being allowed to enter scheduled tournaments. The results of this check must be on file in the office, Department of Physical Education for Women, Alumni Gymnasium, before participation is allowed.

7. Students are classified in regular and restrictive classes according to skill and ability into elementary, intermediate, and advanced classes.

8. Each student is required to dress in department regulation gymnasium costume in order to participate in class work. Two regulation gymnasium costumes are required. Tennis shoes or gymnasium shoes are required.

9. To receive a survey of all types of activities, the following are suggested in preparing student schedules. Swimming is the only required activity.

Suggested Activities

Dance

- a. Modern
- b. Tap
- c. Folk
- d. Social

Team Sports

- a. Basketball
- b. Soccer
- c. Softball
- d. Volleyball

Individual Activities

- a. Golf
- b. Tennis
- c. Badminton
- d. Archery
- e. Bowling
- f. Functional

One quarter Swimming or additional quarters if needed to pass beginners swimming test.

Activities Offered

100.	Functional.	Spring, Summer, Fall, Winter.
121-221-321.	Archery.	Spring, Summer, Fall, Winter.
122-222-322.	Badminton.	Spring, Summer, Fall, Winter.
123-223-323.	Basketball.	Winter, Fall.
124-224-324.	Bowling.	Spring, Summer, Fall, Winter.
125-225-325.	Fundamentals (Golf).	Fall, Winter, Spring, Summer.
126-226-326.	Recreational Sports.	Spring, Summer, Fall, Winter.
127-227-327.	Soccer.	Fall.
128-228-328.	Softball.	Spring.
129-229-329.	Stunts and Tumbling.	Fall, Winter, Spring.
130-230-330.	Tennis.	Spring, Summer, Fall, Winter.
131-231-331.	Swimming.	Spring, Summer, Fall, Winter.
132-232-332.	Volleyball.	Spring, Summer, Fall, Winter.
133-233-333.	Folk Dance.	Spring, Summer, Fall, Winter.
134-234-334.	Mass Games and Relays.	Spring, Summer, Fall, Winter.
135-235-335.	Modern Dance.	Spring, Summer, Fall, Winter.
136-236-336.	Tap Dance.	Spring, Summer, Fall, Winter.
137-237-337.	Social Dance.	Spring, Summer, Fall, Winter.

110. Hygiene (3). Summer, Fall, Winter. Staff
Hygiene: deals with problems in personal, mental and environmental hygiene.
- 111-112-113. Hygiene (1-1-1). Spring, Summer, Fall, Winter. Staff
Required of all freshman women for three quarters. PW 111 deals with problems in personal hygiene; PW 112, mental hygiene suggesting certain principles for working out individual difficulties; and PW 113, environmental hygiene, a consideration of the sociological environment and public health education.

Professional Courses for Undergraduates Majoring and Minorng in Physical Education

- PW 138. Volleyball and Tumbling (Women) (1). Fall. Staff
Basic skills in volleyball and tumbling. (Pr. to PE 212 and PW 312.)
- PW 139. Basketball and Recreation Sports (Women) (1). Winter. Staff
Basic skills in basketball and recreation sports. (Pr. to PW 313.)
- PW 140. Softball and Tennis (Women) (1). Spring. Staff
Basic skills in softball and tennis. (Pr. to PW 314.)
- PE 151. Survey of Activities (Men) (1). (Required of majors and minors.) Staff
Leadership course in teaching calisthenics, grass drills, guerillas, and the organization of class activity.
- PE 152. Survey of Activities (Men) (1). Staff
The fundamental skills and techniques of elementary combatives, boxing and fencing.
- PE 153. Survey of Activities (Men) (1). Staff
The fundamental skills and techniques of badminton, paddle tennis, and tennis.
- PE 201. Introduction to Physical Education (5). Lec. 5, Fall, Spring. Donahoe
An introduction to the field of physical education from the earliest periods to the present. Emphasis is placed on the physical, biological and psychological principles of physical education.
- PE 202. Basketball (Men) (5). Lec. 3, Lab. 4. Fall. Eaves
The fundamental skill techniques in basketball, the different offense, defense and strategy.
- PE 203. Anatomy (Men) (5). Lec. 5. Fall. Hutsell
The study of structure and functions of the human body, including digestive, circulatory, respiratory, reproductive, nervous, excretory, and endocrine systems.
- PE 206. Football (Men) (5). Winter. Jordan
The fundamentals of football and the different types of offense, defense, team strategy and generalship.
- PE 212. Elementary Physical Education (5). Lec. 5. Fall, Winter, Summer. Pr., Land
PW 138, 238 (Women). PE 252 (Men). (Majors).
A study of games of low organization and play activities suitable to each grade of elementary level. The presentation of skills and devices necessary for competent instruction for the elementary grades.
- PE 214. Physiology of Exercise (Women and Men) (5). Lec. 5. Spring. Pr., CH 103, VM 220, 221. (Women). PE 203, VM 210. (Men). Staff
- VM 220-221. Human Anatomy and Physiology (Women) (5-5). Lec. 3, Lab. 4. Staff
Winter, Spring. Pr., ZY 102.
(See Veterinary Medicine, page 309, for description.)
- PW 238. Folk and Square Dance (Women) (1). Staff
Basic skills of folk and square dance. Pr. to PE 212, 301, PW 311.
- PW 239. Soccer and Calisthenics (Women) (1). Staff
Basic skills of soccer and calisthenics.
- PW 240. Social and Tap Dance (Women) (1). Staff
Basic skills of social and tap dance. Pr. to PE 301, PW 311.
- PE 251. Survey of Activities (Men) (1). Staff
The teaching of the fundamental skills and techniques of archery, golf, and weight training.
- PE 252. Survey of Activities (Men) (1). Pr. to PE 301. Staff
Techniques and fundamental skills of folk and square dance.
- PE 253. Survey of Activities (Men) (1). Staff
Fundamental skills and techniques of tumbling, trampoline, and pyramids.

- PE 301. Recreation Leadership (5). Lec. 5. Winter, Summer. Pr., PW 238, 240 (Women). PE 252, 351 (Men). PE 212 (Women and Men). (Majors). Donahoo**
- PE 303. Baseball (Men) (2). Lec. 1, Lab. 2. Staff**
The study of offensive and defensive strategy, pitching, catching, infielding, outfielding, batting, and baserunning.
- PE 304. Track and Field (Men) (3). Lec. 2, Lab. 2. Hutsell**
Fundamental skills and techniques of track and field athletics. The organizing and conducting of track meets.
- PW 311. Conduct of Rhythmical Activities (Women) (5). Lab. 10. Spring. Pr., PW 338, 240; PW 438 or PW 135. Donahoo**
Discussions, practices, and leadership experiences in folk, square, tap, social, and modern dance.
- PW 312. Theory and Conduct of Sports (Women) (5). Lab. 10. Fall. Pr., PW 138. Donahoo**
A study of leadup games, skill techniques, rules and principles of officiating; practice in the application of the skills and principles of volleyball and tumbling.
- PW 313. Theory and Conduct of Sports (Women) (5). Lab. 10. Winter. Pr., PW 139, 339, and 340. Staff**
A study of leadup games, skill techniques, rules and principles of officiating; practice in the application of these skills and principles of basketball and recreation sports.
- PW 314. Theory and Conduct of Sports (Women) (5). Lab. 10. Spring. Pr., PW 140. Staff**
A study of leadup games, skill techniques, rules and principles of officiating; practice in the application of these skills and principles of softball and tennis.
- PW 338. Badminton and Bowling (Women) (1). Staff**
Skills and techniques of badminton and bowling. Pr. to PW 313.
- PW 339. Golf and Archery (Women) (1). Staff**
Skills and techniques of golf and archery. Pr. to PW 313.
- PW 340. Modern Dance (Women) (1). Staff**
Skills and techniques of modern dance. Pr. to PW 311.
- PE 351. Survey of Activities (Men) (1). Lab. 6. Staff**
The fundamental skills and techniques of square, social, and folk dance. Pr. to PE 301.
- PE 352. Survey of Activities (Men) (1). Lab. 6. Fall. Staff**
The fundamental skills and techniques of apparatus.
- PE 353. Survey of Activities (Men) (1). Lab. 6. Staff**
The teaching of fundamental skills and techniques of team games, such as volleyball, soccer, and speedball.
- PE 401. Organization and Administration (5). Lec. 5. Fall and Spring. Pr., Senior standing. Land, Umbach**
Administration of intramural and physical education activities; also the construction and care of the physical education plant and departmental organization.
- PE 404. Athletic Injuries and First Aid (Men) (5). Lec. 4, Lab. 2. Howard**
A study of athletic injuries as to their care, prevention, and correction. Developing the knowledge, skills, and techniques of first aid leading to an Instructor's in First Aid.
- PE 416. Adaptive Physical Education (5). Lec. 5. Spring. Pr., PE 214, VM 220 and 221. (Women). PE 214, 203, 404. (Men). Martincic**
A review of anatomy, physiology, and psychology as pertains to special programs of physical education for the temporarily and permanently handicapped, with laboratory practice in posture training and remedial gymnastics.
- PW 438. Swimming (Women) (1). Staff**
Skills and techniques of swimming and water safety. Pr. to PW 439.
- PW 439. Advanced Swimming (Women) (1). Staff**
Life saving techniques leading to senior or instructor's certificate. Water safety, officiating and administration of water demonstrations and programs.
- PE 451. Survey of Activities (Men) (1). Staff**
Fundamental skills and techniques of wrestling.
- PE 452. Survey of Activities (Men) (1). Staff**
Fundamental skills of life saving and the instructor's in swimming.

Physics (PS)*Head Professor Carr**Professor Hughes**Associate Research Professor Alford***Associate Professor Sparks**Assistant Research Professor Budenstein**Assistant Professors Crafts, French, and Harlan**Instructors Kilbourn, Lindsey, Steele, and Wood**Research Fellows James M. Scarborough and John P. Scheiwe*

The significant contributions of physics to the advancement of modern industry and technology are reflected in a marked demand for well-trained scientists in this field. Opportunities for a career in this science are to be found in the increasingly active industrial and governmental laboratories as well as on the teaching and research staffs of the colleges and universities. The Curriculum in Physics (see page 201) is recommended to those who contemplate a career in teaching and research, while the Curriculum in Engineering Physics (see page 173) should appeal to those whose interests lie primarily in the applied aspects of the subject. The course offerings also provide foundational training for students in chemistry and engineering. In addition, service courses are offered to meet the needs of students enrolled in agriculture, architecture and building construction, education, forestry, home economics, industrial management, pharmacy, pre-dentistry, pre-medicine, pre-veterinary medicine, and arts and sciences.

Good laboratory and library facilities are available for advanced studies and research in several fields of modern and classical physics. Current research activities include studies in mass spectrometry, positive and negative ion kinetics, nuclear scintillation spectrometry, magneto-optics, neutron physics, and in the solid state phases of ferroelectricity, pyroelectricity, and piezoelectricity. Adequate research facilities are also maintained in the fields of spectroscopy, electronics, x-rays, and optics.

201. General Physics—Mechanics (5). Lec. 4, Lab. 3. Pr., MH 201 or 262 (or concurrently).

The first of three quarters in a basic physics course comprising PS 201-202-203. The concepts of classical physics are developed and emphasis is placed upon the solution of problems. A series of selected quantitative experiments is performed in the three-hour weekly laboratory periods. For students in chemistry, engineering, physics and engineering physics.

202. General Physics—Heat, Sound, and Light (5). Lec. 4, Lab. 3. Pr., PS 201; MH 202 or 263 (or concurrently).

203. General Physics—Electricity and Magnetism (5). Lec. 4, Lab. 3. Pr., PS 201; MH 202 or 263 (or concurrently).

204. Survey Course in Physics (5). Pr., PS 201 or 205 excludes credit for this course. The instruction will be conducted around discussions of problems in the effort to develop an intelligent view of the general field of physics within the limits of a one-quarter course. For students in aeronautical administration, agriculture, agricultural education, education dramatics major, and industrial management.

205. Introductory Physics—Mechanics and Heat (5). Lec. 4, Lab. 3. Pr., MH 102 or 160 (or concurrently).

The first half of a two-quarter course in the fundamentals of physics. The quantitative as well as the qualitative aspects of the subject are stressed. For students in architecture, forestry, laboratory technology, pharmacy, pre-dentistry, pre-medicine, pre-veterinary medicine, industrial management, and science and literature. The weekly three-hour laboratory periods are devoted to the performance of appropriate experiments.

206. Introductory Physics—Electricity, Sound and Light (5). Lec. 4, Lab. 3. Pr., PS 205.

Continuation of PS 205.

207. Physics for Home Economics Students (5).

The course is designed primarily to give the student an understanding of the physical principles involved in the appliances used in the home.

210. Pre-Medical Physics (5). Lec. 4, Lab. 3. Pr., PS 206.

A survey of the developments in Modern Physics of particular interest to the medical student. Laboratory experiments appropriate to the subject matter will be conducted.

217. Astronomy (3). General elective.

A brief course in descriptive astronomy, accompanied by occasional observations of the heavenly bodies with a three-inch refracting telescope.

* On leave 1959-60.

- 301. Intermediate Electricity and Magnetism (5).** Lec. 4, Lab. 3. Pr., PS 203, MH 202 or 264.
A study of the fundamental phenomena and relationships of electrical science, primarily from the classical viewpoint and by the methods of calculus. Selected laboratory experiments constitute a part of the course.
- 302. Electronics (5).** Lec. 4, Lab. 3. Pr., PS 301.
Simple alternating current theory. Theory of vacuum and gas-discharge tubes and their circuits. Thermionic emission, space-charge phenomena, and electron ballistics. Gridcontrolled tubes and circuit analysis. Voltage and current amplifiers; feedback theory. Simple computing circuits. Appropriate laboratory exercises form a part of the course.
- 303. Optics (5).** Lec. 4, Lab. 3. Pr., PS 202, MH 202 or 264.
An intermediate course in physical optics comprising wave motion, reflection, refraction, dispersion, origin of spectra, interference, diffraction, and polarization, with appropriate laboratory experiments.
- 304. Applied Spectroscopy (5).** Lec. 4, Lab. 3. Pr., PS 202, MH 202 or 263.
A survey of the more important concepts of the origin of spectra; a study of instruments and techniques of practical spectroscopy. Laboratory experiments designed to give students in both Chemistry and Physics a working knowledge of spectroscopy as a tool.
- 305. Introduction to Modern Physics (5).** Lec. 4, Lab. 3. Pr., PS 202-203, MH 202 or 264.
A survey of the more significant discoveries and developments which have marked the advances in physics over the past half-century, including an introduction to the structure of electricity and light, atomic and molecular spectra, X-rays, natural and artificial radioactivity, isotope analysis, nuclear fission, cosmic rays. Pertinent experiments constitute the laboratory work.
- 401. Theoretical Physics I—Mechanics (5).** Pr., junior standing, PS 203, MH 401 (or concurrently).
Free, damped and forced vibrations; central force field; work and energy; systems of particles. Introduction to vector analysis.
- 402. Theoretical Physics II—Mechanics Continued (5).** Pr., junior standing, PS 401.
Kinematics and dynamics of rigid body motion; introduction to matrices; Lagrange's equations; small oscillations.
- 404. Thermodynamics (5).** Pr., junior standing, PS 202-203, MH 264 or 301.
Equations of state. First and second laws of thermodynamics. The absolute temperature scale; the entropy, free energy, and Gibbs potential; general conditions of equilibrium. Application to reactions in gases and dilute solutions. Nernst's postulate.
- 405. Nuclear Physics (5).** Lec. 4, Lab. 3. Pr., junior standing, PS 305, MH 264 or 301.
Nuclear radiations; transmutations; natural and artificial radioactivity; binding energy; nuclear forces; structure of the nucleus; nuclear fission and its applications. Appropriate laboratory experiments form a part of the course.
- 409. Introduction to Reactor Physics I (5).** Lec. 4, Lab. 3. Pr., junior standing, PS 305, MH 402, or permission of instructor.
A brief account of nuclear physics; basic instrumentation; interaction of neutrons with matter; chain reactions; neutron diffusion; the bare homogeneous thermal reactor; lattice constants; reactor kinetics.
- 410. Introduction to Reactor Physics II (5).** Lec. 4, Lab. 3. Pr., junior standing, PS 409.
Homogeneous reactor with reflector; reactor control; power reactors; thermal aspects of reactor systems; design variables; radiation detection and measurement; shielding; radiation hazards.
- 421. Advanced Electronic Circuits (5).** Pr., junior standing, PS 302.
Advanced network and feedback theory; voltage regulators; oscillators; pulse and sweep generators; electronic instruments.
- 430. Physics for High School Teachers I (4).** Lec. 3, Lab. 3. Pr., PS 204 or equivalent, junior standing.
A study of the fundamental laws in mechanics, heat, and sound with particular emphasis upon such broad principles as Newton's laws of motion, the conservation of energy and momentum, and the transfer of energy.
- 431. Physics for High School Teachers II (4).** Lec. 3, Lab. 3. Pr., PS 430, junior standing.
A study of the fundamental laws in light, electricity, magnetism, and an introduction to some basic phenomena in atomic, molecular, and nuclear physics.

470. Health Physics (5). Lec. 4, Lab. 3. Pr., permission of the instructor, junior standing.
Fundamental principals of radioactivity; instrumentation for detecting and monitoring radioactive nuclides; radiation effects on man; permissible radiation dosages; safe handling of radioactive substances; and shielding from various radiations.

GRADUATE COURSES

601. Advanced Dynamics I (3). Pr., PS 402.
D'Alembert's principle; introduction to the calculus of variations; Hamilton's principle and Hamilton's equations; principle of least action.
602. Advanced Dynamics II (3). Pr., PS 601.
Canonical variables and contact transformations; the Hamilton-Jacobi equation; action; angle variables; Poisson brackets; continuous systems.
603. Theory of Electricity and Magnetism I (3). Pr., PS 301; MH 402.
Electrostatics—Laplace's equation and Poisson's equation; Green's identities; the stress tensor; steady electric currents; magnetostatics; Faraday's law of induction.
604. Theory of Electricity and Magnetism II (3). Pr., PS 603.
Maxwell's equations; the vector potential; field of a radiating dipole; Kirchhoff-Huygens theory. The relativistic formulation of Maxwell's equations.
617. Modern Physics I (3). Pr., PS 305.
Wave Mechanics; kinetic-theory; gaseous electronics.
618. Modern Physics II (3). Pr., PS 305.
Bohr theory; spectra; x-rays; nuclear physics.
619. Modern Physics III (3). Pr., PS 305.
Solid state; photoelectric effect; thermionic emission.
629. Statistical Mechanics (3). Pr., PS 404, 601.
Statistical ensembles in classical mechanics, the Maxwell-Boltzmann distribution law. Boltzmann's H theorem, and an introduction to quantum statistical mechanics.
630. Modern Physics for High School Teachers (5). Lec. 4, Lab. 3. Pr., junior standing, PS 431 or equivalent, MH 487 or equivalent.
A survey of developments in physics since 1890 including: structure of matter; atomic and molecular spectra; x-rays; natural and induced radioactivity; nuclear fission and fusion; and cosmic rays.
635. Introduction to Solid State Physics (3). Pr., PS 619.
Classification of crystal structures; lattice vibrations; thermal properties of solids; dielectric properties; ferroelectricity; diamagnetism; paramagnetism; ferromagnetism; free electron theory of metals; band theory of metals; and semiconductors.
639. Seminar in Theoretical Physics (2). Pr., permission of instructor.
641. Quantum Mechanics I (5). Pr., PS 617.
Schrodinger's time independent equation; perturbation theory; the Born approximation; the hydrogen atom.
642. Quantum Mechanics II (5). Pr., PS 641.
Hermitian operators; eigenvalues and eigenfunctions; orthogonality and completeness; transformation theory; matrix mechanics.
653. Seminar in Modern Physics (2). Pr., permission of instructor.
661. Nuclear Structure (3). Pr., PS 405.
Selected topics on properties of nuclei.
699. Research and Thesis. Credit to be arranged.

Poultry Husbandry (PH)

Professors Moore, Cottier, and Edgar
Associate Professor Goodman
Assistant Professor Howes

The work in this department is designed to provide practical instruction in various phases of poultry raising. The courses cover the fields of feeding, breeding, marketing, incubation, brooding, diseases, parasites, and management. The undergraduate work is especially planned to meet the needs of students who expect to become poultry farmers, poultry specialists, county agents, and Smith-Hughes teachers. The graduate work allows students to equip themselves for extension specialists, college teachers, and research workers.

202. Veterinary Poultry (5). Lec. 4, Lab. 2. Fall, Winter, Spring. Cottier
A study of the principles of poultry production and their application to students in Veterinary Medicine.

- 301. General Poultry Husbandry (5).** Lec. 4, Lab. 2. Fall, Winter, Spring, Summer. **Goodman**
Principles of poultry production and their application to general farm conditions, including breeding, feeding, housing, diseases, and culling.
- 302. Poultry Meat Production (3).** Lec. 2, Lab. 2. Spring. Pr., PH 301. **Cottier**
The practical problems involved in raising broilers, capons, and turkeys for meat production.
- 404. Poultry Management (5).** Lec. 4, Lab. 2. Winter. Pr., PH 301 and junior standing. **Cottier**
Poultry problems and management of commercial flocks.
- 405. Poultry Feeding (3).** Fall. Pr., PH 301 and junior standing. **Cottier**
The composition and use of poultry feeds in connection with the demands for growth, body maintenance, and egg production.
- 406. Incubation and Brooding (3).** Lec. 2, Lab. 2. Winter. Pr., PH 301 and junior standing. **Goodman**
Embryology of the chick, theory and practice of incubation and brooding.
- 407-09. Poultry Problems (3-3).** Lec. 1, Lab. 4. Pr., 12 hours PH courses and junior standing. All quarters. **Staff**
Investigation on some phase of poultry work.
- 408. Poultry Diseases and Parasites (5).** Lec. 4, Lab. 2. Winter. Pr., PH 301 and junior standing. **Cottier**
The prevention, diagnosis, control, and treatment of the common diseases and parasites of poultry, designed especially for Agriculture students.
- 410. Poultry Breeding (3).** Lec. 3. Spring. Pr., PH 301, ZY 400, and junior standing. **Moore**
The physiology of reproduction and inheritance of various poultry characters responsible for efficient egg and meat production and low mortality.
- 411. Poultry Marketing (3).** Lec. 2, Lab. 2. Spring. Pr., PH 301 and junior standing. **Goodman**
Grading eggs and poultry and study of problems of poultry marketing.
- 412. Commercial Poultry Management (3).** Lec. 4. Pr., graduate standing. **Staff**
A study of the management practices and principles used in the business of producing market eggs, hatching eggs, broilers, and turkeys. (Credit for both PH 404 and PH 412 may not be used in meeting requirements for the Master's degree.)
- 413. Poultry Sanitation and Diseases (3).** Lec. 4. Pr., graduate standing. **Staff**
A study of recommended sanitation practices and the prevention and control of common diseases and parasites of poultry. (Credit for both PH 408 and PH 413 may not be used in meeting requirements for the Master's degree.)
- 422. Avian Diseases (5).** Lec. 4, Lab. 2. Fall. **Cottier**
This course deals with the diagnosis, treatment, and prevention of infectious and parasitic diseases. Clinical and autopsy demonstrations are performed during laboratory periods. (For Veterinary students only.)

GRADUATE COURSES

- 604. Advanced Poultry Production (5).** Lec. 5. Spring. **Cottier**
Advanced studies on various phases of poultry production.
- 606. Advanced Poultry Breeding (5).** Lec. 4, Lab. 2. Spring. **Moore**
Advanced studies of the principles of heredity as applied to poultry breeding.
- 607. Advanced Poultry Problems (5).** All quarters. **Staff**
Study of assigned problems.
- 608. Seminar.** Credit to be arranged. Fall, Spring, Winter, Summer. **Staff**
Study of literature in Poultry Husbandry and other fields related to poultry. Emphasis will be given to the preparation, organization and presentation of research material by students and to reporting of current literature in the field. Designed for seniors in Poultry or Animal Husbandry as well as graduate students.
- 610. Advanced Poultry Nutrition (5).** Lec. 5. Winter. **Staff**
An advanced study of the nutrients, their function and the nutritional requirements of poultry.
- 611. Advanced Poultry Management (5).** Lec. 5. Summer. **Cottier**
An advanced study of the principles of management of commercial poultry flocks.
- 612. Advanced Poultry Diseases (5).** Lec. 1, Lab. 8. Spring. Pr., PH 408 and consent of instructor. **Edgar**
Isolation, cultivation, and identification of bacterial, fungal, and viral agents. Emphasis on biochemical aspects of microbial and nutritional diseases and the mechanisms of the immune response.

613. **Advanced Poultry Diseases (5).** Lec. 1, Lab. 8. Summer. Pr., VM 418 and PH 612, or equivalent. **Edgar**
A continuation of PH 612 with emphasis on those disease conditions caused by protozoa, helminths, and arthropods and the gross and histo pathology of diseases studied in both quarters.
699. **Research and Thesis. Credit to be arranged. All quarters. Staff**
Technical laboratory problems related to poultry.
799. **Doctoral Research and Dissertation. Credit to be arranged. All quarters. Staff**

Psychology (PG)

Professors Bills and McIntyre
Associate Professor Barrett-Lennard
Assistant Professors Frederick and Mayer
Instructors Vallery and Sanders

A psychology major on the undergraduate level earns the Bachelor of Arts degree which provides him with a broad base for further study in the field. A student who earns the Master's degree in psychology may be prepared for additional graduate work or for service in vocations such as psychometry, school psychology, personnel work in business and industry and research technician.

101. **Orientation: Personal and Professional (5). Fall. Staff**
Personal and professional orientation through reading improvement, individual guidance, library instruction, and analysis of the fields of Psychology.
211. **General Psychology (5). All quarters. Staff**
An introduction to the scientific study and interpretation of human behavior. Consideration of such topics as learning, motivation, emotion, intelligence, perception, personality, and inter-personal relationships will be undertaken.
213. **Growth and Development of School Age Children (5). Staff**
The physical, psychological, and social development of children in grades one to twelve with emphasis on environmental contributions to development. (Not open to students with credit in PG 345 or PG 447.)
214. **Educational Psychology (5). All quarters. Pr., PG 213. Staff**
A study of the development of the individual during the school years from the standpoint of physical growth and mental growth with special attention to the relationship of the school and the individual's concept of learning, attitude, personality, and mental health.
301. **Promotion Optimum Development (5). Pr., PG 214. Staff**
An examination of concepts of psychological maturity and ways of aiding its development in classrooms.
310. **Reading Improvement (3). Lec. 1, Lab. 4. General elective. (Not open to students with credit in PG 101.) Staff**
A thorough diagnosis of each individual student's present degree of efficiency in the reading process; to design an individual program of improvement for each student.
311. **The Behavior of Man (3). General elective. Staff**
The humanistic aspects of general psychology emphasizing theory and principles of the science of the behavior of man. Includes topics such as: individual differences, motivation, world of form and space, personality in a social environment, and the assessment of man. (Not available to students who have taken PG 211. May be used as a prerequisite for PG 325, PG 330, PG 345.)
325. **Psychology of Personality (5). Pr., PG 211 or departmental approval. Bills, Lennard, Mayer**
An examination of the nature of personality adjustment with special emphasis on development factors. Topics to be considered are motivation, theories of adjustment, the defense mechanisms, the evaluation of personality, and mental hygiene.
330. **Social Psychology (5). Pr., PG 211. Bills, Mayer**
Effects of the group upon individual and social behavior. A study of the biological antecedents of social behavior; leadership; attitudes; suggestions; institutions; and social conflict.
340. **Psychometric Methods (5). Pr., PG 211 and MH 107 or departmental approval. Sutton**
The arrangement and treatment of psychological data, application of techniques of data treatment to various psychological areas. Laboratory work in the analysis of experimental data.
345. **Child Psychology (5). Pr., PG 211. Mayer**
The physical, psychological, and social development of the child and the relation of the child's environment to his development. Special problems of child training in the family and of social adjustment at school will be discussed. (Not open to students with credit in PG 213.)

360. Applied Psychology (5).

A survey of the contributions of psychology to the fields of advertising, consumer research, selling, medicine, education, law and clinical practice and other professions.

410. Advanced Psychology (Principles of Behavior) (5). Pr., PG 211, junior standing.

McIntyre

A detailed and systematic examination of the principles underlying the basic psychological processes of development, perception, learning, thinking, emotion, and motivation.

414. History of Psychology (5). Pr., 5 hours of Psychology, junior standing.

Staff

The historical development of modern psychology. The course deals with the nature of the psychological problems that have been raised at different periods and the attempts at solution of these problems.

420. Experimental Psychology (5). Lec. 2, Lab. 6. Pr., PG 211 and PG 340 or departmental approval, junior standing.

Methods, techniques, and materials required in experimentation in learning, memory, and thinking. The laboratory work is designed to illustrate the basic principles in psychology and give the student first-hand opportunity to study an individual or group of individuals relative to psychological processes.

430. Integration of Behavior (5). Pr., PG 211 or PG 212, junior standing.

Bills, Lennard

An integration of psychological concepts and information in areas such as leadership, personality, group interaction, and learning in relation to problems of people and problems of working with people.

434. Mental Hygiene (5). Pr., 5 hours of Psychology, junior standing.

Bills, Lennard

An extended study of adjustment problems, techniques of adjustment, case studies, procedures in diagnosis, and treatment.

435. Abnormal Psychology (5). Pr., Junior standing, 10 hours of Psychology including PG 211.

Bills, Lennard

This course covers various abnormal forms of behavior, with reference material drawn from clinical sources. Problems of interest to the social worker and criminologist will receive attention. Field trips when possible will be taken.

445. Comparative Psychology (5). Pr., 10 hours of Psychology, junior standing.

Principles of behavior in infra-human organisms, with emphasis upon vertebrates. Special attention given to experiments on motivation, innate behavior, learning, retention and problem solving.

446. Physiological Psychology (5). Pr., Junior standing, 10 hours of Psychology.

A study of the physiological mechanisms underlying certain of the basic behavioral processes accompanying sensation and emotions.

447. Adolescent Psychology (5). Pr., Junior standing, PG 211 and PG 345 or departmental approval.

Mayer

A continuation of PG 345 covering development and maturation during adolescence with emphasis on the problems of the adolescent's adjustment to his personal and social environment, with special applications to family and school life. (Not open to students with credit in PG 213.)

455. Tests and Measurements (5). Lec. 3, Lab. 4. Pr., Junior standing, PG 211, MH 107, PG 340, or departmental approval.

Mayer

A survey of the field of psychological examination and measurement, covering the testing of various aptitude, intelligence, personality characteristics and interests. Laboratory work will involve practice in giving, scoring, and interpretation of tests and other techniques.

461. Industrial Psychology (5). Pr., Junior standing.

McIntyre

A survey of the uses of Psychology in business and industry. The course will include projects in personnel selection and classification, familiarization with tests commonly used in industry; measurement of men on the job, their training, efficiency, morale, attitudes, and achievement. Practical, quantitative, psychological research techniques used in personnel work will be demonstrated.

462. The Psychology of Training and Supervising Industrial Personnel (3). Pr., Junior standing.

McIntyre

Application of the principles of learning to the training of factory, office, and sales employees. Utilization and evaluation of training devices. Psychological techniques in foreman training. The Training Within Industry programs such as Job Instruction Training, Job Methods Training, and Job Relations Training will be demonstrated and discussed from the psychological viewpoint.

463. The Psychology of Interviewing and Classifying Industrial Personnel (3). Pr., Junior standing.

McIntyre

Principles of interviewing, learning how to interview, training interviews, and field investigations. Interviewing in industrial situations, employment and upgrading, occupational adjustment, industrial counseling, oral examining in civil service agencies, and employer-

employee disciplinary and exit interviews. Introduction to the Dictionary of Occupational Titles will also be included.

490. **Special Problems in Psychology (3 to 8).** Pr., Junior standing, departmental approval. Staff
An individual problems course. Each student will work under the direction of a staff member of some experimental or theoretical problem of mutual interest.

GRADUATE COURSES

601. **Enhancing Human Development (5).** Bills
An examination of concepts such as the normal personality, the open person, the process person, and optimum development with emphasis on school and other environmental influences in their development.
610. **Modern Viewpoints in Psychology (5).** McIntyre
An integration course examining a number of viewpoints in psychology, including structuralism, behaviorism, functionalism, purposive psychology, Gestalt psychology, and psychoanalysis.
611. **Advanced Psychometric Methods (5).** Pr., MH 127, PG 340, PG 420, PG 455, or permission of the instructor.
A continuation of PG 340 which includes statistical theory of error and measurement, indices of reliability and validity, norm development, and other research tools and techniques.
615. **Design of Experiments (5).** Pr., PG 611.
Construction of theory and the formulation of empirical generalizations in terms of logical and statistical advantages and limitations in experimental design.
617. **The Psychology of Learning (5).** Bills, McIntyre
A study of the problems and theories of learning with emphasis on individual differences.
620. **Advanced Experimental Psychology (5).** Lec. 2, Lab. 6.
Experimental investigation illustrating basic problems in the field of maturation, fatigue, reflex action, emotion, learning and social functions.
631. **Advanced Social Psychology (5).** Mayer
An evaluation of the various theories explaining social behavior. Consideration and performance of experiments in the field of attitude, prestige and suggestion, social climate, and propaganda.
634. **Advanced Mental Hygiene (5).** Bills, Lennard
Emotional satisfactions and adjustment mechanisms of children and adolescents. Behavior disorders and meliorative action for promoting favorable physical, intellectual, social, and emotional growth during formative years, including emphasis on complex personality factors.
637. **Advanced Abnormal Psychology (5).** Bills, Lennard
Continuation of Psychology PG 435 with emphasis on case studies and the classification of abnormal groups. Field trips will be taken when possible.
651. **Research Studies in Psychology (5).** Staff
Study on a problem by using research techniques. The problem will be selected in consultation with the professor who will supervise the study. The problem should be one which will contribute to the program of the student.
654. **Individual Testing (5).** Lec. 3, Lab. 4. Pr., 20 hours in Psychology. Mayer
The theory and practice of measurement of intellectual performance in the individual. Students will be permitted to select either the Binet of Wechsler for practice, depending upon their interests.
655. **Construction and Evaluation of Tests (5).** Mayer
Theory of test construction; construction of test items; item analysis; reliability; methods of test validation; the combining of tests into batteries.
656. **Advanced Psychological Measurements (5).** Pr., PG 455, PG 654 or departmental approval. Mayer
The nature, administration, and use of complex psychometric instruments in the areas of intelligence, performance, and personality.
- 671-2. **Projective Theory and Techniques I & II (5-5).** Pr., departmental approval. Lennard
Intensive study of the foundation and theory of projective diagnosis in clinical psychology. Supervised practice in administering, scoring and interpreting projective tests; intensive case study work. Emphasis is placed upon interpretation of the tests in reference to different personality structure and diagnoses of these differences.
690. **Seminar (1-5).**
Course may be repeated for a total not to exceed 10 hours credit.
699. **Research and Thesis.** Credit to be arranged. Staff

Religious Education (RE)

- 301. Religion and Modern Thought (3). General elective.**
A course dealing with the relation between the philosophical foundations of Christianity and modern thought in other fields.
- 303. Christian Ethics (5).**
The application of Christian Ethics to current problems, the relationship of Christian and personal ethics, and other phases of the science of right conduct and morals are brought out in the course.
- 304. The Bible as Literature (5).**
A survey of the types of literature in the books of the Bible, including reading and study of selected examples of different forms of poetry and prose, and observation of the religious truths and spirit of each selection. Consideration of the influence of the Bible on modern literature will be noted.
- 305. Comparative Religions (3). General elective.**
A study of the principal religions of the world, including readings in the history and literature of the peoples whose religions are discussed.
- 306. Studies in the Gospels (3). General elective.**
A study of the characteristics of the Gospels and the harmony among them.
- 307. History of the Christian Church (3). General elective.**
A history of the Christian Church from the close of the New Testament period to the present time with chief emphasis upon the development in Western Europe and in the United States.
- 308. The Epistles of Paul (3). General elective.**
A study of the Epistles of Paul in the New Testament; their dates, backgrounds and arguments; the major emphases of Paul's thought; particular studies of portions of Thesalonians, 1 Corinthians and Romans to demonstrate typical Pauline themes.
- 309. The Prophets of Israel (3). General elective.**
A history of the Hebrew religion as the background of Christianity. Selected figures of the Old Testament are studied; each seen in his own day seeking to interpret his times in light of the eternal messages he was called to deliver.

Secretarial Training (ST)

*Assistant Professors Beck, Hale, Lamar, and Waldo
Instructors Evans and Brown**

- 101. Secretarial Science I (5). Lec. and Lab. 10.**
The first of a series of four courses in which the student develops the ability to prepare mailable copy. Student begins the study of typewriting and Gregg system of shorthand. One hour per day is devoted to each. Primary emphasis is in the development of correct techniques in both skills. (Not open to students who have not had the equivalent of one unit of H.S. typing. Such students without typing should first take ST 111.)
- 102. Secretarial Science II (5). Lec. and Lab. 10. Pr., ST 101.**
Continuation of ST 101.
- 111. Business Typewriting (5). Lab. 10. Not open to those with credit in ST 113 or who have one high school unit in typing.**
Course for beginners dealing with elements of typewriting to gain facility in the preparation of letters and reports, typing from rough draft, tabulations, the cutting of stencils, and general typing.
- 113. Personal Typewriting (3). General elective. Lab. 6. Not open to those with credit in ST 111 or who have one high school unit in typing.**
Introductory course designed for student who wishes to learn typewriting for personal use. Emphasis on touch control of keyboard, centering, appropriate styles for letters, and the preparation of reports. More time spent on the application of fundamentals than on speed.
- 203. Secretarial Science III (5). Lec. and Lab. 10. Pr., ST 102.**
Emphasis on developing production rate on jobs approximating those of a business office. Review of shorthand theory, building shorthand writing speed, and laying a foundation on which to build transcription skill.
- 204. Secretarial Science IV (5). Lec. and Lab. 10. Pr., ST 203.**
Development of transcription ability through the fusion of skills in typewriting, reading shorthand, spelling, grammar, handling supplies, etc. Continuation of shorthand review and dictation speed.

* Temporary.

300. **Secretarial Procedure (5).** Pr., ST 204 and junior standing.
Analysis of the secretarial profession stressing importance of personal factors, the responsibilities of the secretary, and the study of specialized duties. Related work assignments give practice in typical secretarial activities.
301. **Dictation (5).** Pr., ST 204 and junior standing.
Increased rate of dictation to 120 words per minute and further development of transcription speed.
302. **Office Machines and Filing (5).** Lab. 10. Pr., EC 211 or equivalent, and the ability to type at a reasonable speed.
Course designed to give the student a working knowledge of various machines found in modern offices. Basic training in use of voice-writing, duplicating, adding, calculating, and posting machines. Also presentation of principles of indexing and filing and special filing systems.
303. **Advanced Office Machines (5).** Lab. 10. Pr., ST 302 or equivalent.
Advanced training in use of office machines including addressing machines and a survey of the statistical and accounting applications of modern office equipment.
401. **Dictation (5).** Pr., ST 301 and junior standing.
More difficult and technical dictation and transcription organized around several types of vocations.
402. **Office Apprenticeship (5).** Lab. 10. Pr., ST 300 and ST 301 and junior standing.
Practical secretarial training. Student spends two hours each day working in an office to which he is assigned for actual office experience.

Sociology (SY)

Professor Sanders
Associate Professor Hartwig
Assistant Professors Bliss and Shields
Instructor Robbins

Sociology offers preparation for students whose interests lie in the field of human behavior. In the curriculum provided for sociology one finds undergraduate training for such vocational goals as teacher of social science; employment in various agencies as public welfare, work with Red Cross, Scouting, and religious organizations; and careers in government or military service. Also available are service courses in industrial sociology and social problems, to provide additional understandings for those majoring in other fields of study.

Students majoring in sociology are required to complete, beyond Introduction to Sociology (SY 201), a minimum of thirty-five hours in this major field of study. This major will include the following courses; Social Problems (SY 202), Cultural Anthropology (SY 203), and Social Thought (SY 309). In addition, each sociology major is required to have Statistics (EC 345), which would be included among his five-hour electives.

When planning his schedule for each quarter in the Junior and Senior years, each sociology major is strongly urged to report to a member of the sociology staff for consultation and advice.

201. **Introduction to Sociology (5).** Pr., sophomore standing and qualified third quarter freshmen with departmental approval. **Staff**
The principles and processes influencing the social life of man.
202. **Social Problems (5).** Pr., SY 201. **Shields**
Current social problems with special reference to the socially inadequate.
203. **Cultural Anthropology (5).** Sophomore standing. **Sanders**
The nature of culture, using materials taken from scientific studies of societies.
204. **Social Behavior (5).** Pr., SY 201 or PG 211. **Hartwig**
The integrated social-anthropological, biological and psychological factors which influence or determine human behavior; the emphasis is upon the normal average individual and/or group situations.
205. **Preparation for Marriage (3).** General elective. **Bliss**
Basic factors in dating courtship, mate selection and engagement in preparation for marriage and family living.
301. **Sociology of the Family (5).** Pr., SY 201 and junior standing. **Sanders**
The family in contemporary society.
302. **Criminology (5).** Pr., SY 201 and junior standing. **Shields**
The causes of crime and its social treatment. Field trips required.

- 304. Minority Groups (5). Pr., junior standing.** Shields
Racial composition of the United States with special emphasis upon the adjustment of minority groups to the culture.
- 305. Rural Sociology (5). Pr., SY 201 and junior standing or consent of instructor.** Bliss
The nature and organization of the rural community with special emphasis to be given to the culture, social organization and social problems of the rural people.
- 307. The Court and Penal Administration (3). General elective.** Shields
An analysis of the experience of the law breaker from arrest through the court and prison to the eventual return to society. Particular attention is paid to correction. To be offered in alternate years.
- 308. Juvenile Delinquency (5). Pr., SY 201.** Shields
A survey of historical and contemporary considerations relative to the juvenile offender. The emphasis is upon research data from the various sciences attempting to deal with this problem.
- 309. Social Thought (5). Pr., junior standing and SY 201 or consent of instructor.** Hartwig
A survey of significant social thought leading to the emergence of modern sociological theory.
- 310. Social Organization (5). Alternate years. Pr., SY 201 or consent of instructor.** Staff
The structure and stratification of society with particular attention given to the contemporary scene.
- 311. Technology and Social Change (3). General elective. Pr., junior standing.** Hartwig
The relationship between technological development and changes in modern society. Special emphasis is placed upon the human relations aspects of modern science. Designed primarily to meet social science needs of students in the fields of engineering, agriculture, education, and the physical sciences.
- 312. Marriage Adjustments (3). General elective. Pr., junior standing.** Sanders
A survey of emotional, social and biological factors in the family setting with emphasis upon adjustments of marriage and parenthood.
- 401. Population Problems (5). Pr., senior standing.** Hartwig
The problems of quantity and quality of population including problems of composition, distribution and migration. Attention is given to Alabama population.
- 403. Regional Sociology (5). Pr., senior standing, SY 201 or consent of instructor.** Staff
The sociological concept of regionalism. Analysis of regional social phenomena and problems with emphasis on the South.
- 405. Urban Sociology (5). Pr., senior standing.** Hartwig
The growth and decline of cities with special emphasis on ecological and demographic characteristics, associations and institutions, class systems, and housing and city planning.
- 406. Introduction to Social Case Work (5). Pr., senior standing.** Bliss
The development of social case work and a survey of modern social case work practice. Primarily for those students intending to enter the profession of social case work or related fields.
- 407. Public Opinion and Propaganda (5). Pr., junior standing, SY 201 and SY 204 or PG 330 or consent of instructor.** Sanders
A survey course in the area of social communication. A study of the formation, place and importance of publics in modern society, of public opinion research, and of propaganda and public relations techniques.
- 408. Industrial Sociology (5). Pr., junior standing, SY 201, or EC 442 or IM 306 or consent of instructor.** Staff
An introductory survey of the sociological approach to business organization and industrial relations. Emphasis is given to organizational principles operative in the economic life within a social system such as a factory or business establishment.
- 409. Sociology of Religion (5). Pr., SY 201, senior standing, or consent of instructor.** Sanders
An analysis of religion as a social institution as found in the world's great religions. To be offered in alternate years.

GRADUATE COURSES

- 451. Sociology of Rural Life (3). Lec. 4. Pr., Graduate standing.** Robbins
An advanced presentation of the field of rural sociology with consideration of the social structures and social processes of rural social systems. Credit for SY 305 precludes credit for this course. This course primarily for credit at off-campus centers.

602. Seminar in the Family (5). Pr., SY 301 or HE 304 or consent of instructor. Sanders
An advanced study of the institutional nature of marriage and the family with particular emphasis upon the changing practices and notions in marital relationships as they are related to changes in the structure and functions of the family.
604. Seminar in Race and Culture (5). Pr., SY 201 and SY 304 or consent of instructor. Staff
The adjustment of races to culture with particular reference to the South; the historical and cultural background of the races in America; bi-racial system; problems of race relations.
650. Sociology Seminar (5). Pr., Graduate standing or consent of instructor. Hartwig, Sanders
Designed for those students engaged in intensive study and analysis of sociological subject areas.
651. Regionalism and Rural Life (3). Lec. 4. Pr., Graduate standing. Staff
The regionalist orientation and its application to rural living with specific attention to the Southern Regions of the United States. Topics covered will include interregional influences, subcultural variations, ecological patterns, topographical features and temporal consideration.
652. Social Organization and Community Living in Rural Areas (3). Lec. 4. Pr., Graduate standing. Staff
A presentation of the organization of rural society and an application of the group dynamics perspective to rural community life, problems in rural living, and proposals for facilitating action programs in rural areas such as leadership development, group analysis and participation, and effective community organization.

NOTE: All 400 (except SY 406) and 600 level courses are available for a graduate minor in Sociology.

Speech (SP)

Head Professor Davis

Professor Smith

Associate Professor Ranney

Assistant Professors Green, Hardigree, Sanders

Instructors Canty, Dorné, Gray, Moore*, Stovall, Torrans*

The Speech program is designed: 1) to furnish adequate fundamental courses for all schools on the campus; 2) to provide elective courses for students interested in the various Speech fields; 3) to offer a Speech major and minor in the schools of Education and Science and Literature; 4) to offer a Speech Therapy major and minor in the School of Education. Students electing a Speech or Speech Therapy major or minor should confer with the Speech Staff to plan their programs.

The Speech major, planned as a broad program, provides training for students interested in: 1) pre-professional courses such as law or ministry; 2) basic professional training such as teaching, salesmanship, radio-television, and correction; 3) a general education. Consequently the courses in Speech should be distributed over the six areas of: A) Correction and Voice Science, B) Group Methods, C) Fundamentals, D) Interpretation, E) Public Address, F) Radio and Television.

The Speech major or minor in the School of Science and Literature is governed by the general regulations stated on page 178, and is required to include among his major courses SP 229, 231, 241 and a minimum of one course from subject areas B, D, and F above. The Speech and Speech Therapy majors in the School of Education are governed by the regulations stated on pages 138 and 141.

In addition to the courses below the Speech Department maintains a Speech and Hearing Clinic which offers individual assistance to persons desiring aid in overcoming speech or hearing defects. Applicants for this service should see Dr. Ranney.

229. Voice and Diction (5). All quarters. Staff
A course affording opportunity for individual work in voice development and problems of pronunciation and articulation. Emphasis on drill and practice plus lectures in theory.
231. Essentials of Public Speaking (5). All quarters. Staff
Designed to aid the student through a study of theory and actual practice in addressing an audience. How to gather materials, organize and deliver an effective speech. (Credit in this course excludes credit in SP 305.) A special section of SP 231 will be offered for foreign students only each Fall Quarter.

* Temporary.

- 235. Interpretative Reading (5). Winter.** Davis
A course directed toward teaching the student how to read aloud, to communicate ideas clearly, forcibly and interestingly from the printed page.
- 241. Survey of the Bases of Speech (5). Spring.** Davis
Designed to acquaint the prospective speech major or minor with the fundamentals of speech, the psychological, sociological, and other bases.
- 253. Group Leadership (3). Fall, Winter. General elective.** Smith
Considers the nature and functions of group leadership; the role of democratic leadership in organizing and conducting a group meeting to reach the aims of that group. Students gain leadership experience in class activities designed to help them learn and perfect democratic leadership techniques.
- 273. Group Discussion (5). All quarters.** Smith
Theory and practice of the lecture-forum, round table, symposium and other types of discussion. How to gather materials, organize and participate in or lead such enterprises.
- 283. Argumentation and Debate (5). Fall.** Stovall
A study of debating techniques and procedures; their application to issues of current public interest; the gathering, organization, and presentation of facts, proofs, evidences.
- 301. Phonetics (5). Fall. Pr., junior standing.** Staff
A study of the principles of phonetics and their application to speech.
- 305. Public Speaking (3). All quarters. General elective.** Staff
Designed to aid the student in the preparation and delivery of an effective public speech. Emphasis is on the speech to inform and the speech to convince. (Credit in this course excludes credit for SP 231.)
- 316. Parliamentary Procedure (3). All quarters. General elective.** Staff
Designed to aid the individual who may lead or participate in discussions or organizations where orderly procedure is needed. Theory and practice both employed.
- 321. The Speech Mechanism (5). Spring. Pr., junior standing.** Ranney
The study of the anatomy and physiology of the speech mechanism as applied to normal defective speech.
- 331. Advanced Public Speaking (5). Winter, Spring. Pr., SP 231 or 305, or by consent of instructor.** Davis
Structure, style, and delivery of various types of speeches for different occasions. Speeches to inform, to persuade, and to entertain are stressed. Theory and study of current examples combined with practice.
- 334. Great American Speeches (3). Fall, Winter, Spring. General elective.** Davis
A critical study and comparison of representative outstanding American speeches; the issues with which they were identified; their relation to the social scene.
- 335. Advanced Interpretation (5). Spring. Pr., SP 235.** Canty
A course directed to help the student in interpreting and communicating the meaning of literature; to read both prose and poetry in a manner that will give pleasure and will secure understanding.
- 337. Fundamentals of Radio and Television Broadcasting (5). Fall, Winter. Pr., SP 231 or 305 or consent of the instructor.** Sanders
An introductory course to acquaint the student with the non-technical field, including announcing, programming, continuity and coordination of activities.
- 340. Speech Reading (5).** Hardgree
Description and discussion of the major speech reading (lip reading) principles and theories; analysis of the patterns of instruction of children and adults; clinical practice.
- 341. Hearing Tests and Instruments (5).** Hardgree
Theory and practice of individual and group hearing tests; audio-metric instruments; clinical practice.
- 383-84. Advanced Argumentation and Debate (3-3). All quarters.** Stovall
A laboratory course in the work. Intra-class and inter-collegiate debate primarily. (Available only to members of the Debate Squad at hours to be arranged.)
- 385-86. Radio Workshop (3-3). All quarters. Pr., SP 337.** Canty
Advanced and practical laboratory experience in presenting news, dramatic and variety type programs over local stations. (Available only to members and active participants in the Auburn Radio Workshop.)
- 387-88. Television Workshop (3-3). All quarters. Pr., SP 337.** Sanders
Practical laboratory work in the field of television with experience in the local Educational Television studios working in all phases of the medium. Available at hours to be arranged.

411. Introduction to Problems in Hearing (5). Winter. Pr., junior standing. Hardigree
A study of the principles of auditory reception, the hearing mechanism, and the problems involved in measuring, evaluating, and conserving hearing.
431. Principles of Speech Correction (5). Fall, Winter, Summer. Pr., junior standing. Ranney
A course designed to enable students to learn how to identify speech defective cases and to learn various types of survey techniques. Students will learn how to handle simple functional articulatory and voice cases. A fundamental course for speech correction practice.
432. Advanced Speech Correction (5). Spring, Summer. Pr., junior standing, SP 431 or equivalent. Ranney
A continuation of SP 431.
437. Advanced Radio Broadcasting (5). Spring. Pr., junior standing and SP 337 or consent of instructor. Sanders
A continuation of SP 337. An advanced course in announcing techniques, program organization, audience analysis, recording, sound effects, directing.
441. Hearing Pathology (5). Pr., SP 411 or equivalent. Hardigree
Evaluation and rehabilitation of aural handicapped children and adults; hearing aids and auditory training; clinical practice.
442. Persuasive Speaking (5). Fall. Pr., junior standing and SP 231 or 305 or consent of instructor. Davis
Influencing individuals and audiences by means of spoken appeals. Salesmanship speaking. Analysis of the forces which lead to belief and action. Practice in organizing and presenting such appeals.
473. Advanced Discussion (5). Spring, Summer. Pr., junior standing and SP 273 or consent of instructor. Smith
The study of, and practice in, the theory and organization of discussion and conference groups including the individual speakers. A course designed primarily for those who will work with groups, e.g., teachers, county agents, Home Demonstration Agents, Athletic Directors, Industrial Coordinators.

GRADUATE COURSES

631. Speech Pathology (5). Fall, Summer. Pr., SP 431, 432 or equivalent. Ranney
An advanced professional course focusing upon etiological and diagnostic factors in psychogenic and organic disorders of speech.
632. Clinical Methodology (5). Spring, Summer. Pr., 431, 432 or equivalent. Ranney
The principal methodologies and techniques currently employed in the management of the principal disorders of speech. Practical experience in dealing with actual cases.
673. Seminar in Discussion (5). Spring, Summer. Pr., SP 273 or equivalent. Smith
The leadership role in public discussion. Includes a survey of published experimental work in discussion and considers the values and limitations of discussion as a tool of the group leader. Special attention is paid its application to problems in education, business, industry, and agriculture.

Textile Technology (TT)

Professor Adams

Associate Professors Knight and Waters

Assistant Professors Cox and Taylor

101. Introduction To Textiles (1).
An orientation course for freshmen which briefly introduces all branches of the textile industry.
210. Fiber Processing (5). Lec. 4, Lab. 3.
Study of construction and operation of equipment for opening, cleaning, blending, picking, carding, combing, drawing; adaptation of these processes to synthetics and wool; calculations necessary for the planning and operation of this equipment.
211. Yarn Manufacture I (5). Lec. 4, Lab. 3.
Study of construction and operation of roving and spinning equipment for cotton, wool, and synthetics; long draft systems and special drafting, systems for blends, etc.
220. Weaving and Designing I (5). Lec. 4, Lab. 3.
Study of automatic cam loom mechanism with designing of fabrics made on these looms.
221. Weaving and Design (4).
Lecture part only of TT 220 (for students in Interior Design.)

- 304. Textile Fibers (2). Lec. 1, Lab. 3.**
Study of textile raw materials, including cotton, rayon, nylon, wool, flax, etc.
- 307. Bleaching and Dyeing (5). Lec. 4, Lab. 3.**
Bleaching, dyeing, and finishing of natural and synthetic textiles; all types of dyes for textiles, their application and fastness are studied; survey of all finishes used on textile fabrics.
- 317. Dyeing and Finishing (5).**
Plant application methods and plant problems in dyeing and finishing of natural and synthetic textiles.
- 318. Physical Testing (2). Lec. 1, Lab. 3. Pr., junior standing.**
Testing procedures, laboratory use of textile testing equipment, and interpretation of data obtained in physical testing.
- 319. Chemical Testing (2). Lec. 1, Lab. 3. Pr., junior standing.**
Procedures and laboratory work on all types of textile tests which are of a chemical nature; analysis of textile chemicals.
- 320. Weaving and Designing II (5). Lec. 4, Lab. 3. Pr., TT 220.**
Dobby and special weaving attachments and designs applicable to this type of loom. Leno, terry, and extra warp fabrics.
- 321. Weaving and Designing III (5). Lec. 4, Lab. 3. Pr., TT 320.**
Mechanisms and patterns requiring multiple systems of filling; box motions; practical weaving problems; filling backed, double, and triple fabrics; weaving mill machinery layout and labor organization.
- 322. Yarn Manufacture II (5). Lec. 4, Lab. 3. Pr., TT 210 and TT 211.**
Methods of obtaining higher quality yarns; yarn production planning; practical manufacturing problems; yarn mill machinery layout and labor organization.
- 323. History of Textiles (5). Pr., sophomore standing.**
A study of the textile industry dating back some 6,000 years; types of weaves, colors, designs, and methods of making fabrics during different periods; fibers used, production and consumption of major textile products; the development and importance of the textile industry.
- 405. Warp Preparation (5). Lec. 4, Lab. 3. Pr., junior standing.**
Preparation of wrap yarn for weaving.
- 406. Textile Costing (5). Pr., junior standing.**
Basic principles for figuring textile production costs; allocation of costs; fabric cost sheet; marketing costs.
- 412. Textile Management (3). Pr., junior standing.**
Analysis of management problems in textile industry including policy determination, job analysis, work loads, training, organization, plant layout, etc.
- 414. Textile Fibers II (5). Pr., senior standing.**
Origin, characteristics, and properties of the various textile fibers, both natural and synthetic.
- 417. Textile Microscopy (5). Lec. 3, Lab. 6. Pr., PS 202 and senior standing.**
Optical and microscopical analysis of textile fibers, yarns, and fabrics; special applications of photomicrography and polariscopic analysis.
- 418. Jacquard Weaving and Design (2). Lec. 1, Lab. 3. Pr., TT 220 and junior standing.**
Jacquard mechanism and design of original patterns for jacquard loom.
- 422. Synthetic Fibers I (5). Lec. 4, Lab. 3. Pr., junior standing.**
Manufacturing and processing.
- 426. Synthetic Fibers II (5). Pr., CH 208.**
Technological aspects of the processes involved in the manufacture of such synthetic fibers as viscose rayon, acetate rayon, nylon, vinyon, aralac, glass.
- 430. Fabrics (3). Pr., junior standing.**
Identification, construction, and uses of basic and special fabrics; classification and sources of fabric defects.
- 431. Fabric Analysis (3). Lec. 2, Lab. 3. Pr., TT 320.**
Analysis of fabric structure and determination of specifications.
- 432. Finishing and Printing (5). Lec. 4, Lab. 3. Pr., TT 317 and CH 316.**
A chemical study of textile finishes and their application, printing equipment and methods, printing paste preparation, etc.

Veterinary Medicine (VM)

Departments

The School of Veterinary Medicine is organized under six departments. They are listed below with the instructors and a general statement of facilities and methods of instruction given for each department.

Anatomy and Histology

Head Professor Fitzgerald
Associate Professor Whiteford
Instructors James and Holloway
Technician Dennis

Instruction in the department consists of lectures, recitations and laboratory work. Numerous charts, photographs, lantern slides, and permanent anatomical specimens are employed for demonstration.

In anatomy laboratory embalmed specimens of the horse, ox, sheep, pig, dog, and fowl are dissected, with special attention being directed to practical areas of anatomy. Since the feel of tissue is requisite to good surgery, the student does all dissection and helps with embalming under observation of the instructor.

The extensive departmental collection of permanent microscopic slides and demonstration materials serve as a basis for instruction in histology and embryology. An understanding of normal tissue and development is essential for diagnoses and the apprehension of clinical medicine.

Bacteriology

Head Professor Neal
Professor Dacres
Associate Professor Attleberger
Assistant Professor Teresa
Instructor Crawford
Technician Mitcham

The Department of Bacteriology offers opportunity for study of microorganisms, other than protozoa and animal parasites. Emphasis is placed on bacteria, molds, rickettsiae and viruses as causes of diseases, microbial processes in nature and industry, and the characteristics of the various microorganisms involved.

Courses are offered that are designed for students in various fields of study; e.g., agriculture, home economics, laboratory technology, pharmacy, sanitary engineering and veterinary medicine.

Lectures are supplemented with technical laboratory work and demonstrations. Courses for veterinary students are required in general and pathogenic bacteriology, mycology, virology and immunology. Modern facilities are available, permitting microbiological laboratory diagnosis in conjunction with the clinics.

Pathology and Parasitology

Head Professor Bailey
Professor Johnson
Associate Professor Groth
Instructors Lindsey, Lanier and Teer
Technicians McConnell and Watts

The courses in this department are designed to give the pre-clinical student a basic understanding of the fundamental anatomic and physiologic alterations of disease. Particular attention is given to the manifestations of animal diseases in the organs and systems of the body and to the laboratory procedures which are employed as an aid in their diagnosis. During the junior and senior years small groups of clinical students are given close supervision as they assist in performing autopsies and making examinations in the clinical pathology laboratory.

Fresh specimens from the clinics and autopsy room supplement the permanent materials (histologic sections, gross museum specimens, and color transparencies) to provide ample material for use in the laboratory work.

The department also cooperates with the Veterinary Diagnostic Laboratory, State Department of Agriculture and Industries, in the diagnostic services it renders the veterinarians and animal owners of the state.

Physiology and Pharmacology

Head Professor Clark
Associate Professor Burns
Assistant Professor Woodley
Instructors Kling and Robertson
Technician Carter

Physiology, being the study of the normal functions of the various organs of the body, is taught by means of lectures and laboratory work. In the laboratory the student is shown how the organs and their secretions function so that he will recognize deviations from the normal during his later studies of disease. Live animals as well as academic demonstrations are provided for this purpose.

Large Animal Surgery and Medicine

Head Professor Schell
Professors Gibbons and Wiggins
Associate Professor Walker
Assistant Professor Vaughan
Instructor Humburg

The lecture courses outlined include a detailed study of the diseases of farm domestic animals. The laboratory work consists of large animal clinics which are provided with modern facilities for housing and treating animals requiring hospital care. The student's time is devoted to the actual application of diagnostic procedures and prophylactic, therapeutic and surgical treatment of animal diseases, both in the hospital and on farms.

Ambulatory clinic, operated in connection with the Large Animal Clinic, is required of all senior students.

Small Animal Surgery and Medicine

Head Professor Hoerlein
*Professors Heath and Evans**
Associate Professor Elsasser
Instructors Swalley and Horne
Research Assistant Hahn

The theory and practice of small animal surgery and medicine and radiology as taught to the third and fourth year students summarizes and demonstrates the application in practice of previously received basic training in anatomy, physiology, bacteriology, pathology, parasitology, and therapeutics. This material is presented by lectures, demonstrations, laboratory exercises, and clinical instruction.

200. General Microbiology (5). Lec. 3, Lab. 4. Fall, Spring. Pr., General and Organic Chemistry. Attleberger, Staff
 Especially intended for students in Pharmacy or Laboratory Technology; devoted to the fundamentals of microbiology and technical methods for the study and identification of microorganisms.
203. Immunology (5). Lec. 3, Lab. 4. Pr., VM 204. Spring. Neal
 Offered for students in Laboratory Technology. Included are studies of the protective powers of the body against infection, techniques in immunology such as agglutination and precipitation reactions, Quellung test, Bordet-Gengou reaction, allergy, etc.
204. Pathogenic Microbiology (5). Lec. 3, Lab. 4. Fall, Winter, Summer. Pr., VM 200. Teresa
 Especially intended for students in Pharmacy or Laboratory Technology; devoted to the study of microorganisms pathogenic to man, antibiotics, principles of immunity and laboratory diagnosis.
210. Human Physiology (5). Lec. 3, Lab. 4. All quarters. Robertson and Staff
 Lectures include a study of the functions and manner of operation of the body and its parts, with special emphasis on digestion, circulation and reproduction. Laboratory exercises are used to illustrate the functions of the various organ systems of the body.

* On study leave.

- 220-221. Human Anatomy and Physiology (5-5). Lec. 3, Lab. 4. Winter and Spring.**
Pr., ZY 102. Burns and Staff
 For students in Laboratory Technology and others who are qualified. A study of the structure and functions of the various organs and tissues. Human models, cats and frogs are used in the laboratory to supplement the lecture material.
- 311. General Bacteriology (5). Lec. 3, Lab. 4. Winter and Summer. Attleberger and Staff**
 Designed for students in Home Economics. The course deals with elementary bacteriology as applied to foods, industry and home sanitation.
- 320. Anatomy (5). Lec. 2, Lab. 10. Fall. Whiteford, James and Holloway**
 A comparative study of the osteology, arthrology, and myology of the domestic animals. This is accomplished by the comparative study of the skeleton of the different species associated with demonstration of living animals. Individual bones of all species are studied and compared. Typical articulations shown from museum preparations are compared with those of the living animal. Myology in its relation to conformation of the different types and breeds is also stressed by dissection of fresh and embalmed material.
- 321. Anatomy (5). Lec. 2, Lab. 10. Winter. Pr., VM 320. Whiteford, James and Holloway**
 A continuation of VM 320. Dissection of ruminants, equines and carnivora. In addition to myology, splanchnology, angiology and neurology are emphasized.
- 322. Anatomy (5). Lec. 2, Lab. 10. Spring. Pr., VM 321. Whiteford, James and Holloway**
 A continuation of VM 321. Dissection of equines, ruminants, and carnivora. Splanchnology, angiology and neurology are repeated and aesthesiology is emphasized. In making the necessary dissections ample opportunity is offered for a review of arthrology and myology. The latter half of this course is devoted to the anatomy of domestic fowl and swine.
- 326. Histology (5). Lec. 2, Lab. 6. Fall. Fitzgerald and Holloway**
 A comprehensive microscopic study of the form, structure, and recognition of the basic tissues of domestic animals.
- 327. Organology (5). Lec. 2, Lab. 6. Winter. Pr., VM 326. Fitzgerald and Holloway**
 A continuation of VM 326. A comprehensive microscopic study of the tissue composition of organs and organ systems.
- 328. Embryology (5). Lec. 2, Lab. 6. Spring. Pr., VM 327. Fitzgerald and Holloway**
 The study of the formation and early development of the embryos of domestic animals. Fetal membranes and placentation is emphasized.
- 329. Veterinary Physiology (3). Lec. 3. Winter. Clark**
 A systematic survey of organic compounds commonly found in animal tissues as well as a study of the chemistry involved in various laboratory tests commonly used in veterinary medicine.
- 330. General Microbiology (5). Lec. 3, Lab. 4. Fall. Neal and Staff**
 A study of the fundamentals of microbiology for students in veterinary medicine. This involves the biology and technical procedures used in the identification of microorganisms other than the protozoa.
- 331. Infection and Immunity (5). Lec. 3, Lab. 4. Winter. Pr., VM 330. Neal and Staff**
 This course deals with sources and mechanisms of infection and principles of immunology biological therapy. It includes a study of the protective powers of the body and techniques of immunology, e.g., agglutination and precipitating reactions and hypersensitizations.
- 333-34. Zootechnics (3-2). Lec. 2, Lab. 4; Lec. 2. Fall and Spring. Schell and Horne**
 The course is designed to acquaint veterinary students with the feeding, management, handling, training, and showing of farm and pet animals.
- 336. Physiology (5). Lec. 4, Lab. 3. Spring. Burns**
 A comprehensive study of the functions of the nervous, circulatory and respiratory systems. For students in Veterinary Medicine.
- 415. General Bacteriology (5). Lec. 3, Lab. 4. Spring. Teresa**
 Offered to students in Sanitary Engineering. The course deals with basic principles of bacteriology and emphasizes the relationship of bacteria to foods, water, sewage and disease.
- 420. General Microbiology (5). Lec. 3, Lab. 4. All quarters. Crawford**
 A study of the principles of microbiology involving morphology, classification, metabolism, identification, cultivation and distribution of bacteria, viruses and molds; also basic principles of applied microbiology.
- 421. Animal Physiology (5). Lec. 5. Winter. Woodley**
 This is a study of the physiology of the farm animals with special emphasis on digestion, endocrinology and reproduction.

- 422. Animal Disease Control (5). Lec. 5. Spring. Pr., VM 420, 421.** Gibbons
A study of herd management and practices proven to be of value in the prevention and control of the important diseases of animals.
- 436-437-438. Pharmacology (5-3-5). Lec. 3, Lab. 4. Fall, Winter and Spring.** Woodley and Kling
Pharmacology, in its broad sense, embraces materia medica, pharmacology, and pharmacodynamics. Detailed consideration is given to the physiological action of drugs used in veterinary practice, methods of administration, incompatibilities, and also prescription writing and pharmaceutical arithmetic. Chemical poisons and plant poisons are studied.
- 443. Physiology (5). Lec. 3, Lab. 6. Fall.** Burns
A detailed study of digestion and metabolism.
- 444. Physiology (5). Lec. 3, Lab. 6. Winter.** Clark
The study of the endocrines and reproductive systems of domestic animals.
- 450. General Pathology (5). Lec. 3, Lab. 4. Fall. Pr., VM 326-327-328.** Groth
This course is a study of the fundamental anatomic and physiologic alterations of disease. The topics discussed in lecture and demonstrated in the laboratory include disturbances in the metabolism of proteins, carbohydrates, fats and minerals; circulatory disturbances; inflammation and repair of damaged tissue; disturbances in the growth and differentiation of cells; and the pathology of tumors. Particular attention is given to the relation of these changes to the understanding and diagnosis of diseases of animals.
- 451. Systemic and Special Pathology (5). Lec. 3, Lab. 4. Winter. Pr., VM 450.** Groth
Systemic and special pathology is a study of the manifestations of disease in the organs and systems of the animal. It includes discussion and laboratory demonstration of the changes caused by important infectious, nutritional, toxic and metabolic diseases of animals. Particular attention is given to the gross and microscopic criteria on which definite diagnosis is based.
- 452. Clinical Pathology (3). Lec. 1, Lab. 6. Spring. Pr., VM 451.** Lanier
Instruction is given in the methods of collecting, preserving, and submitting specimens for examination. Clinical laboratory methods of examining urine, blood, and other body fluids are performed by the students in the laboratory periods. The lectures are devoted primarily to the application and interpretation of the results as an aid in formulating a diagnosis or prognosis.
- 453. Systemic and Special Pathology (2). Lec. 1, Lab. 2. Spring. Pr., VM 451.** Groth
A continuation of VM 451.
- 456. Veterinary Parasitology (3). Lec. 2, Lab. 2. Fall.** Bailey
This course begins with an introduction to the science of parasitology which serves as a basis for a detailed study of the important endo parasites of the domestic animals. During this quarter the individual parasites of the ruminants are studied. Emphasis is placed on the morphology and bionomics of the parasites to provide a basis for diagnosis and control.
- 457. Veterinary Parasitology (5). Lec. 3, Lab. 4. Winter. Pr., VM 456.** Bailey
This course is a continuation of VM 456. The internal parasites of swine, equine, dogs, cats, and poultry are covered.
- 458. Veterinary Parasitology (3). Lec. 2, Lab. 2. Spring. Pr., VM 457.** Bailey
A study of the important ectoparasites of the domestic animals, with emphasis placed on the items listed in VM 456 for the endoparasites.
- 461. Pathogenic Microbiology (5). Lec. 3, Lab. 4. Spring. Pr., VM 331.** Neal and Staff
A systematic study of pathogenic bacteria, viruses and molds of importance in diseases of domestic animals. Includes technical methods for their isolation, identification, serological diagnosis and the biological measures for control of the diseases they cause.
- 500-501-502. Veterinary Medicine (5-5-5). Lec. 5. Fall, Winter and Spring.** Wiggins and Gibbons
A detailed study of the etiology, symptoms, pathogenesis, diagnosis, treatment and prevention of the medical diseases affecting the various systems and organs of the equine, bovine, ovine and porcine species. Studies begin with diseases of the respiratory system and continue with diseases of the digestive system, urinary system, circulatory apparatus, nervous system, skin and disorders of metabolism.
- 503. General Surgery (3). Lec. 3. Winter.** Vaughan
Principles of general surgery including general surgical technique, administration of anesthetics, restraint, surgical bacteriology, preoperative preparation, post-operative care, surgical repair and the care and selection of instruments.
- 504. Large Animal Surgery (5). Lec. 5. Spring.** Vaughan
A study of special surgical conditions affecting the various parts of the animal body, and surgical treatment of such. The physical examination of the eye and a study of diseases of the eye, pathological horse shoeing, diagnosis and treatment of lameness, and special surgical operations are completed in this course.

- 508. Large Animal Clinic (1). Lab. 4. Spring.** Schell and Staff
Under the direction of the instructors the student begins the actual handling and treatment of clinical cases. The basic principles of diagnosis and treatment of diseases learned in the previous clinical courses are applied by the student. Students are assigned to clinical laboratory and post-mortem work. Clinic sessions will be held every afternoon Monday through Friday and on Saturday morning. Students are required to be present at all clinic sessions.
- 510. Small Animal Medicine (5). Lec. 5. Fall.** Hoerlein
Detailed consideration of the systemic, noninfectious, and parasitic diseases of the small domestic animals.
- 512. Small Animal Surgery (5). Lec. 3, Lab. 6. Spring.** Hoerlein and Swalley
Lecture—specific basic surgical techniques. Laboratory—performance of basic surgical operations on anesthetized animals which are owned by the college.
- 518. Small Animal Clinic (1). Lab. 4. Spring.** Elsasser
During the spring quarter students begin actual handling and treatment of cases. Students are assigned to clinical laboratory and post mortem work.
- 519. Small Animal Medicine (3). Lec. 3. Spring. Pr., VM 510.** Heath
A continuation of Small Animal Medicine VM 510 giving detailed consideration to advanced study and differential diagnoses of diseases of small domestic animals.
- 521. Milk Sanitation (5). Lec. 4, Lab. 2. Winter. Pr., VM 461.** Dacres
A study of sources and development of bacteria in milk; sanitary production; public health requirements; standard methods of milk analysis; the bacteriological control of milk supplies; milk plant sanitation and equipment; the methods of dairy farm and plant inspection; and occasional inspection trips.
- 526-27. Physical Diagnosis and Clinical Technics (2-2). Lec. 1, Lab. 4. Fall and Winter.** Vaughan and Swalley
The demonstration and practice of methods employed in physical diagnosis, handling, restraint and administration of therapeutic agents to farm and small animals.
- 528. Applied Anatomy (2). Lec. 1, Lab. 2. Fall.** James and Holloway
Deals with those aspects of anatomy which are related to diagnostic obstetrical and surgical procedures.
- 530. Radiation Biology and Diagnostic Radiology (5). Lec. 3, Lab. 4. Winter.** Hoerlein and Clark
The first half of this course deals with the effects of radiation on animal tissues, the use of radioactivity as a food preservative, and the therapeutics of radiation injury. The theory and use of instruments designed to detect radioactivity are also covered. The second half of the course deals with a study of the fundamentals of radiology and the clinical application of diagnostic roentgenology for veterinary medicine.
- 531-551. Jurisprudence and Ethics (1-1-1). Lec. 1. Winter, Summer.** Schell
Laws relating to duties of the veterinarian to the public and to his clients, his liabilities, rights, collection of fees, etc., will be considered.
Federal and state regulations governing movement of livestock, quarantine rules, and the responsibilities of the practicing veterinarian in connection with federal and state control of infectious and communicable diseases will be covered. Ethics as applied to the veterinary profession will be stressed.
- 553. Special Anatomy (1 to 5). Hours and credit to be arranged. Pr., VM 320.** Whiteford and James
An elective course which deals with any phase of anatomy of domestic animals related to the anticipated field of specialization by the student.
- 554. Veterinary Medicine (3). Lec. 3. Summer.** Wiggins
The study and identification of the poisonous plants of the Southeastern states as well as their characteristic symptoms, lesions and treatment.
- 555-556. Infectious Diseases (5-5). Lec. 5. Fall and Winter.** Gibbons
These courses are designed to include a study of the principle infectious diseases of the large domestic animals. It is concerned mainly with the epizootiology, etiology, symptoms, diagnosis and prevention of diseases, including immunization and sanitation. The first quarter includes the study of acute and chronic bacterial diseases. The second quarter is devoted to consideration of virus and protozoan diseases. Federal and State regulations governing the interstate movement of animals and Federal and State quarantine laws and regulations are also covered.
- 557-558. Applied Anatomy (1-1). Lab. 2. Summer and Winter.** James and Holloway
Deals with those aspects of anatomy which are related to diagnostic, obstetrical and surgical procedures.
- 560. Obstetrics (5). Lec. 5. Summer.** Gibbons
A study of the normal and abnormal conditions connected with reproduction in domestic animals. Methods of diagnosis and treatment of sterility in both male and female, and methods of artificial insemination will be included in this course.

- 561. Veterinary Medicine (5). Lec. 5. Fall.** Hoerlein and Horne
The study and methods of diagnosis, postmortem findings, and treatment of common chemical and venom poisoning of farm animals and pets.
- 562-563-564. Large Animal Surgical and Obstetrical Exercises (1-1-1). Lab. 2. Summer, Fall, and Winter.** Walker, Vaughan and Gibbons
Demonstrations and practical application of surgical and obstetrical procedure as carried out on farm animals.
- 566-567-568. Large Animal Clinic (2-2-2). Lab. 8. Summer, Fall, and Winter.** Schell and Staff
Consists of daily conferences and clinical laboratory. The laboratory consists of practice in diagnosis, therapy, post-mortem, and clinical laboratory examinations. The instruction is accomplished in small groups each under the supervision of an instructor of the clinical or pathology staff.
- 572-573-574. Small Animal Surgical Exercises (1-1-1). Lab. 2. Summer, Fall, and Winter.** Heath, Horne and Elsasser
Detailed consideration and performance of advanced small animal surgery.
- 575. Meat Sanitation (5). Lec. 5. Summer. Pr., VM 452, 458, and 461.** Johnson
A study of ante-mortem and post-mortem inspection of animals slaughtered for food; interpretation of regulations governing the disposition of carcasses showing pathological conditions; construction of abattoirs for small towns.
- 576-577-578. Small Animal Clinic (2-2-2). Lab. 8. Summer, Fall, and Winter.** Hoerlein and Heath
Consists of daily conferences and clinical laboratory. The laboratory consists of practice in diagnosis, therapy, post-mortem, and clinical laboratory examinations. The instruction is accomplished in small groups each under the supervision of an instructor of the clinical or pathology staff.
- 582. Seminar (3). Winter.** Whiteford and Staff All Departments
Each student prepares one or more case reports or literature reviews as assigned by the faculty Seminar committee. Written reports are prepared and a summary given before the entire class and faculty members. This is followed by an open discussion by students and faculty.
- 588. Veterinary Medicine (5). Lec. 5. Winter.** Gibbons
This course is designed to place special emphasis on the newer aspects of diseases of metabolism and the nutritional diseases of farm animals. A portion of the course is devoted to the special study of swine and sheep diseases.
- 592. Internship. Spring.**
Completion of satisfactory internship during the spring quarter with reputable veterinary practitioner required for graduation.

GRADUATE COURSES

Courses for Advanced Undergraduates and Graduates

Candidates for a master's degree in the School of Veterinary Medicine are required to pass a preliminary oral examination and demonstrate adequate knowledge in their chosen fields. They must meet the general requirements for admission into the Graduate School. For further details as to the conditions and requirements pertaining to graduate work, the applicant is referred to the chapter on the Graduate School in this catalogue and memoranda issued by the school; also see special Graduate School bulletin.

The following graduate courses are offered only for students who have completed the requirements for the degree Doctor of Veterinary Medicine, except where indicated.

- 414. Techniques in Bacteriology (5). Pr., VM 461 or equivalent and junior standing.** Neal
Any quarter by arrangement.
Advanced techniques used in bacteriology, pertaining to isolation, cultivation and identification of microorganisms. (Course limited to five students.)
- 418. General Pathology (5). Lec. 3, Lab. 4. Fall. Pr., satisfactory courses in histology and physiology.** Staff
A study of the fundamental alterations of disease, adapted for especially qualified graduate students. (Not available for candidates for M.S. in Veterinary Medicine.)
- 425. Intermediate Human Physiology (5). Summer or Fall by arrangement. Lec. 4, Lab. 2. Pr., VM 210 or its equivalent and junior standing.** Robertson
This course is designed for advanced students in home economics, education and others who are qualified. It consists of a detailed study of the physiology of the various organs of the body. (Not available for candidates for M.S. in Veterinary Medicine.)

441. **Physiological Function Tests and Laboratory Diagnosis (5).** Lec. 4, Lab. 3. Any quarter by arrangement. Pr., permission of the instructor, acceptable courses in physiology, and junior standing. Burns
Chemical, photometric, and enzymatic procedures used in diagnosis of abnormal body functions. Included are function tests for the thyroid, liver, kidney, heart, pancreas, etc.
460. **Histological Techniques (2 to 5).** Hours and credit to be arranged. Pr., VM 326 and junior standing. Fitzgerald and Whiteford
A detailed study of the techniques employed in the preparation of cytological and histological materials.
462. **Microbial Physiology (5).** Lec. 2, Lab. 6. Pr., VM 420 or other satisfactory courses in microbiology and senior standing. By arrangement. Teresa
A survey of metabolic changes occurring within microorganisms, metabolites which are produced and actions on inorganic substances, nitrogenous compounds, citric acid, carbohydrates, etc. Also a study of microbial growth, biosynthesis and adaptation. The laboratory will stress qualitative and to a limited extent evidence of quantitative metabolic phenomena. (Available to especially qualified students in other schools as well as to candidates for M.S. in Veterinary Medicine.)
465. **Special Techniques in Histopathology (3).** Lab. 9. Pr., VM 453, VM 460. Any quarter by arrangement. Groth
A study of special stains and techniques of histochemistry employed in the preparation of materials for histopathologic study.
467. **Gross Pathology (2).** Lab. 6. Pr., VM 453 junior standing and permission of instructor. Any quarter by arrangement. Staff
Consists of regular participation in the autopsy examinations under the supervision of senior staff members and is designed to give the graduate student experience in autopsy procedures and in diagnostic interpretation of gross lesions. (Required of all majors and minors in Pathology.)
470. **Health Physics (5).** Lec. 4, Lab. 3. Fall. Pr., permission of instructors. (Designed for students in biological and physical sciences who might use radioactive nuclides in their respective professions.) Clark and Carr
Fundamental principles of radioactivity; instrumentation for detecting and monitoring radioactive nuclides; radiation effects on man; permissible radiation dosages; safe handling of radioactive substances; and shielding from various radiations.
602. **Advanced Pathogenic Microbiology (5-5).** Lec. 2, Lab. 6. Any quarter by arrangement. Pr., VM 461. Neal
A comprehensive study of the identification of pathogenic microorganisms and their relationship to animal diseases.
- 604-605. **Immunology (5-5).** Lec. 2, Lab. 6. Pr., VM 461 or equivalent. Spring quarter by arrangement. Staff
A detailed study of immunizing agents, methods of establishing immunity, and techniques for demonstrating various types of immunity and antigen-antibody reactions. The work may be arranged to meet the particular interest of the student.
606. **Virus and Rickettsiae (5).** Lec. 2, Lab. 6. Any quarter by arrangement. Pr., acceptable courses in bacteriology and immunology. Staff
Nature, activities and methods of cultivation of viruses and rickettsiae; their relations to bacteria, plants and animals.
609. **Clinical Mycology (5).** Lec. 2, Lab. 6. Any quarter by arrangement. Pr., permission of the instructor and acceptable courses in bacteriology. Attleberger
Methods and techniques used in isolating and propagating yeasts, molds and actinomycetes pathogenic for animals. Laboratory diagnosis of fungus infections in animals.
611. **Advanced Pathology (5).** Lec. 2, Lab. 6. Pr., VM 453 or equivalent. Spring or Summer. Groth
A comprehensive study of systemic and special pathology.
613. **Diagnostic Histopathology (1-5).** Hours and credit to be arranged. Pr., VM 465. Any quarter by arrangement. Johnson
A comprehensive study of the histopathology of diseases of domestic, wild and zoo animals. The student studies all appropriate material submitted for histopathologic diagnosis under the supervision of the pathologists.
615. **Oncology (5).** Lec. 1, Lab. 8. Pr., VM 465. Any quarter by arrangement. Johnson
A detailed study of the gross and microscopic pathology of the neoplasms of the domestic animals.

- 617-618. **Advanced Parasitology (5-5). Lec. 4, Lab. 3. Pr., acceptable under-graduate and graduate courses in parasitology.** Bailey
A comprehensive study of the ecology and host-parasite relationships of animal parasites. Special emphasis will be given to the factors affecting epidemiology of parasites, the mechanism of invasion of the host's body, factors involved in the pathogenesis of the infection and the mechanisms and effects of immunity response by the host.
- 621-622-623. **Advanced Systematic Veterinary Anatomy (5-5-5). Lec. 2, Lab. 9. Any quarter by arrangement.** Fitzgerald and Whiteford
A detailed study of special phases of gross anatomy of systems and organs of domestic animals.
- 625-626. **Advanced Histology of Domestic Animals (5-5). Lec. 2, Lab. 9. Any quarter by arrangement.** Fitzgerald and Whiteford
A detailed study of special phases of the microscopic structure of animal tissues and organs.
631. **Advanced Pathological Physiology (5). Any quarter by arrangement. Pr., permission of the instructor and acceptable courses in physiology.** Clark
A study of the physiological response of the body to disease. It is an attempt to explain the signs and symptoms of diseases based on physiological principles. The diseases discussed will be those of the liver, kidney and digestive systems.
632. **Advanced Pathological Physiology (5). Lec. 4, Lab. 3. Any quarter by arrangement. Pr., permission of the instructor.** Clark
A physiological explanation of abnormalities of the reproductive and endocrine systems.
- 635-636. **Advanced Veterinary Pharmacology (5-5). Lec. 3, Lab. 4. Any quarter by arrangement. Pr., VM 436, VM 437, VM 438.** Clark and Woodley
A detailed study of the pharmacology of some of the more important drugs used in veterinary medicine. In the laboratory, the students will have an opportunity to determine the pharmacology of the drugs on the horse, cow, pig, and dog.
638. **Digestive Processes in Domestic Mammals (5). Lec. 5. Any quarter by arrangement. Pr., VM 421 or its equivalent.** Burns
A detailed study of the enzymatic and bacterial digestion as well as the motility of the gastro-intestinal tract in farm animals.
639. **Small Animal Nutrition (5). Lec. 4, Lab. 3. Any quarter by arrangement. Pr., permission of the instructor and acceptable courses in physiology.** Burns
Requirement of amino acids, fats, carbohydrates, minerals and vitamins for dogs, cats and other small animals. Nutritional antagonists and symptoms of nutritional deficiencies in the animals.
643. **Veterinary Radiation Biology (5). Lec. 4, Lab. 3. Any quarter by arrangement. Pr., permission of the instructor and acceptable courses in chemistry and animal physiology.** Clark
A study of the instruments used for radiation detection, isotope techniques, and diagnostic tests used in animals, and the effects of radiation on animal tissues. The isotopes will be primarily gamma emitters.
645. **Electrocardiology and Blood Vascular Physiology (5). Any quarter by arrangement. Pr., permission of instructor and acceptable courses in physiology.** Clark
A study of the physiology of the blood vascular system and the advanced techniques used in electrocardiology.
647. **Canine Neurosurgery (5). Lec. 2, Lab. 6. Any quarter by arrangement. Pr., permission of the instructor.** Hoerlein and Clark
The study of the applied anatomy, physiology, physical and radiographic diagnosis, and surgical correction of lesions (especially those of traumatic origin) affecting the nervous system of the dog.
- 651-652. **Advanced Veterinary Surgery (5-5). Any quarter by arrangement.** Gibbons and Hoerlein
Research in surgery. Advanced techniques for surgical procedures in the domestic animals.
- 654-655. **Advanced Veterinary Medicine (5-5). Any quarter by arrangement.** Gibbons and Hoerlein
Special study of the causes, methods of diagnosis, treatment and methods of control and eradication of selected non-surgical diseases of domestic animals.
- 657-658. **Breeding Diseases of Animals (5-5). Any quarter by arrangement.** Gibbons
A research course for graduate study of fertility in domesticated animals, but particularly, investigation into the etiology, pathogenesis, and treatment of sterility and impaired fertility. Diseases of pregnancy and parturition are also included.

659. **Advanced Radiology (5).** Lec. 2, Lab. 6. Any quarter by arrangement. Hoerlein
Studies of radiological diagnostic methods as applied to domestic animals.
697. **Journal Club.** Non-credit course required of all graduate students in Veterinary
Medicine. Meets at scheduled intervals during Spring or Summer. Staff
698. **Research Problems (2 to 5).** Credit to be arranged. Staff
699. **Research and Thesis; credit to be arranged.** Staff

Zoology-Entomology (ZY)

Professors Arant, Baker, Dendy, Eden, Good, Guyton, Pearson, and Swingle
Research Lecturer Porter

Associate Professors Blake, Dusi, J. M. Lawrence, Ottis, and Prather

Assistant Professors Arthur, K. Hays, Ivey, Faye Lawrence, Mecham, Shell, and Turner
Instructors McIlwain, Stubbs, and D. Hays

The courses in this department are designed to teach the fundamental and economic principles of animal biology; they are especially planned to serve students in Agriculture, Agricultural Education, Education, Home Economics, Laboratory Technology, Pre-Medicine, Secondary Education, Science and Literature, Veterinary Medicine, and Zoology.

Courses have been arranged for those students desiring to major or minor in Entomology, Fisheries Management, Game Management, and other Zoological sciences. There are many opportunities for well trained students in the field of Entomology, Fisheries and Game Management, and Zoology. The various divisions of the United States Department of Agriculture use trained men and women for research, extension, and regulatory work in combating insects, rodents and other pests. The Department of Interior, Fish and Wildlife Service, uses biologists in connection with wildlife research and management. The U.S. Soil Conservation Service offers employment to those trained in impounded water management for fish culture. State Departments of Agriculture use trained men for regulatory and inspection service. The research, extension, and teaching staffs of colleges and universities are also fields of opportunity as are commercial organizations in various phases of zoological work.

101. **General Zoology (5).** Lec. 4, Lab. 2. All quarters. Staff
The principles of animal biology emphasizing metabolism, growth, reproduction, and inheritance; structure, habit, function, distribution, and economic importance of non-chordate animals.
102. **General Zoology (5).** Lec. 4, Lab. 2. Pr., ZY 101. All quarters. Staff
A study of the structure, habits, development, function, distribution, heredity, and economic importance of chordate animals.
205. **Wildlife Conservation (3).** Winter, Summer. General elective. Pearson
The conservation and natural history of important wildlife animals, especially Alabama fish, amphibians, reptiles, birds and mammals. Some field trips may be required, as substitute for part of the scheduled lectures.
206. **Conservation in the United States (3).** Summer. General elective. Good
The basic facts essential to an understanding of current problems pertaining to the conservation of our rapidly depleting natural resources such as soil, water, minerals, forest, and wildlife. Especially planned for elementary and high school teachers.
207. **Birds (3).** Lec. 3. Fall, Summer. General elective. Good
Birds in relation to agriculture and game management, recognition of various species as to flight, color markings, songs, and feeding habits.
210. **Fish Culture (3).** Lec. 3. Spring, Summer. General elective. Dendy
Introduction to the construction and management of ponds, and the principles underlying fish production; also fishing methods, bait production, and the identification of the more common sport fish.
214. **Vertebrate Physiology and Anatomy (5).** Lec. 4, Lab. 3. Fall. Pr., ZY 102. Ottis
A survey of the function and structure of the organ systems of the vertebrate. This offering is aimed primarily to fill the needs of students in the Schools of Agriculture and Education. It cannot be used as a prerequisite to ZY 424.
301. **Comparative Anatomy (5).** Lec. 3, Lab. 6. All quarters. Pr., ZY 101-2. Mecham
Comparison of the systems of the vertebrates.

- 302. Vertebrate Embryology (5).** Lec. 3, Lab. 6. Winter, Spring, Summer. Pr., ZY 101-2. Ivey
A consideration of the details of fertilization, cleavage, morphogenesis, and organogenesis of the amphioxus, frog, chick, pig, and human from a descriptive and analytical viewpoint. Laboratory work will consist of a study of prepared material supplemented with available living material.
- 303. Medical Parasitology (5).** Lec. 3, Lab. 6. Winter. Pr., ZY 101-2. Guyton
A biological study of the parasitic flatworms, roundworms, and protozoa with special emphasis on the distribution, life cycle, diagnosis, prevention, and control of forms affecting the health of man. Consideration will be given to the interrelationship between helminths of man and other animals.
- 304. General Entomology (5).** Lec. 4, Lab. 3. Fall, Summer. Pr., ZY 101-2. Good
The general characteristics and habits of the orders and families of the Class Insects.
- 308. Micrology (5).** Lec. 3, Lab. 6. Fall, Winter. Pr., ZY 101-2. Dusi
Methods of fixation, imbedding, sectioning, staining and mounting tissues of the vertebrates and invertebrates.
- 311. General Parasitology (5).** Lec. 3, Lab. 6. Fall. Pr., ZY 101-2. Turner
An introduction to the basic principles of parasitology; origin of parasites, adaptations of parasites, host-parasite relationships, and ecology. A survey of representative parasitic protozoa, helminths, and arthropods of man, domestic animals, fish, and game with emphasis on identification, life histories, prevention, and control.
- 312. Practical Fish Culture (5).** As arranged. Swingle
Credit will be arranged for 3 months' work in a state or federal hatchery or in an approved commercial hatchery or on other phases of fish culture.
- 400. Genetics (5).** Lec. 4, Lab. 2. Fall, Spring. Pr., ZY 101-2 or BY 201-2, MH 107, and junior standing. Ivey
A technical course designed to illustrate on a mathematical basis the science of genetics and the mode of action of the gene. Laboratory work will consist of crossing experiments with fruit flies and a study of prepared material designed to illustrate the basic genetic ratios.
- 401. Invertebrate Zoology (5).** Lec. 3, Lab. 6. Winter. Pr., ZY 101-2 and junior standing. Dendy
The biology, taxonomy, and ecology of invertebrate animals.
- 402. Economic Entomology (5).** Lec. 4, Lab. 3. Fall, Spring, Summer. Pr., junior standing. Guyton
A consideration of the biological aspects, life histories, and control of insects.
- 404. Medical Entomology (5).** Lec. 4, Lab. 3. Spring. Pr., ZY 304 and junior standing. Hays
Insects, mites, and ticks of parasitological or medical importance to man. Emphasis will be placed on the role of arthropods in the transmission of protozoan and other diseases and the prevention of these diseases by controlling their arthropod vectors.
- 406. Bee Culture (5).** Lec. 4, Lab. 3. Spring. Pr., ZY 101-2 and junior standing. Guyton
Manipulation and production of bees and honey, and a consideration of bee diseases.
- 409. Histology (5).** Lec. 3, Lab. 6. Spring. Pr., junior standing. Dusi
Origin, recognition, and functions of the fundamental and special tissues of the vertebrates.
- 410. Systematic Entomology (5).** Lec. 2, Lab. 6. Winter. Pr., ZY 304 and junior standing. Good
A systematic determination of insects through orders, families, genera, and species.
- 413. Ecology and Identification of Fishes (5).** Lec. 1, Lab. 8. Fall. Pr., ZY 101-2 and junior standing. Dendy
Field trips for the study of fish distribution and laboratory practice in the identification of the more common species.
- 414. Aquatic Insect Taxonomy (5).** Lec. 1, Lab. 8. Summer, even years. Pr., ZY 304 and junior standing. Good
Collection and identification of common aquatic insects, with emphasis on the immature forms.
- 415. Limnology (5).** Lec. 4, Lab. 3. Spring. Pr., CH 102, PS 205, ZY 101-2, and junior standing. Dendy
Chemical, physical, and biological factors affecting aquatic life.
- 416. Organic Evolution (3).** Lec. 3. Fall. Pr., ZY 307 or 400 and junior standing. Mechem
A consideration of evolutionary principles as illustrated by the various biological disciplines, particularly genetics, systematics, and paleontology.

- 420. Vertebrate Zoology (5).** Lec. 3, Lab. 6. Fall. Pr., ZY 102 and junior standing.
Dusi
Physiology, taxonomy, and ecology of vertebrate animals.
- 421. Forest Entomology (5).** Lec. 4, Lab. 2. Spring. Pr., ZY 101 and junior standing.
Pearson
This course is designed to acquaint students with insects that attack forest trees and forest products; also it deals with recognition of forest insects, life histories, damage and control.
- 424. Animal Physiology (5).** Lec. 4, Lab. 3. Winter. Pr., ZY 301 and junior standing.
Ottis
A systematic study of the physiology of the nervous system, special senses, circulation, respiration, digestion, kidney function, hormonal control, and reproduction. An effort is made to acquaint the student with methods of experimentation as a means for the direct acquisition of physiological facts.
- 426. Principles of Game Management (5).** Lec. 4, Lab. 3. Fall. Pr., ZY 101-2 and junior standing.
Pearson
Fundamentals of game management theory, techniques, and administration.
- 428. Hatchery Management (5).** Lec. 3, Lab. 4. Spring. Pr., junior standing Prather
Operation of warm-water hatcheries for the production of game fish and bait minnows; care of brood fish; methods of stocking, fertilization, use of supplementary feeds, weed control; trapping, sorting, counting fish; transportation; control of parasites, and related hatchery problems.
- 429. Pond Construction (5).** Lec. 1, Lab. 8. Fall. Pr., junior standing. Lawrence
Principles and practice in the selection of pond sites; surveying pond areas; use of dynamite in dam construction; installation of drain pipes and valves; and construction of dams, spillways, and diversion ditches.
- 430. Principles of Heredity (5).** Lec. 5. Winter, Summer. Pr., ZY 101-2 or BY
Staff
A survey course in the science of genetics designed for students who will not take additional courses in genetics. The basic facts essential for an understanding of the mode of inheritance in plants and animals will be presented in a non-technical manner. Credit may not be allowed for both ZY 430 and ZY 400. Restricted to students in Education except by special permission.
- 431. Field Zoology (5).** Lec. 2, Lab. 6. Summer. Pr., Teaching Experience and junior standing.
Staff
Designed to give secondary teachers a knowledge of natural history and field identification of common animals of this region. The collection and preparation of specimens for classroom use will be included. Restricted to students in Education except by special permission.
- 432. Animal Biology (5).** Lec.-Dem. 5. Summer. Pr., Teaching Experience and junior standing.
Staff
Principles of animal biology with emphasis on the structure and function of the human body. Preparation and utilization of demonstration material will be stressed. Restricted to students in Education except by special permission.

GRADUATE COURSES

The Department of Zoology-Entomology offers graduate training on the Master's and Doctoral levels. Students desiring graduate training in zoology, entomology, fisheries management, or game management should have a degree from a recognized institution with adequate undergraduate training in zoology, botany, chemistry, physics, and mathematics. The training should include 30 hours of biological science related to the major subject. Training in agricultural subjects is essential also except for majors in zoology. Qualified students lacking one or more prerequisite subjects may be admitted but will be required by the departmental advisory committee to make up the prerequisites without credit.

The Auburn University Agricultural Experiment Station has at present active research projects in entomology, fisheries management, game management, and zoology. These projects afford an opportunity for part-time employment by graduate students on a two-year basis as graduate assistants. There are also graduate assistantships in connection with the teaching program.

The Farm Ponds project has approximately 150 ponds of various sizes which are available for use in training graduate students. Facilities of the Cooperative Wildlife Research Unit are available for use in training graduate students in wildlife management. This unit is operated cooperatively by Auburn University, State Department of Conservation, the Fish and Wildlife Service of the Department of Interior and the Wildlife Management Institute. Facilities of the Experiment Station at Auburn and at the various sub-stations and experiment fields located in all parts of the state are available for conducting research in connection with thesis projects in entomology.

Excellent laboratory facilities are available for studies in insect physiology, insect toxicology, and economic entomology. Theses are required of all students.

Students devoting full time to graduate studies may complete the M.S. degree within a minimum of one calendar year. The doctoral degree requires a minimum of three school years or nine quarters beyond the B.S. degree. Students on one-half time assistantships require two calendar years for completion of the M.S. degree or four calendar years for the completion of the Ph.D. degree. Part of the doctoral work may be done in absentia if necessary arrangements are made in advance.

The graduate degrees offered in the Department of Zoology-Entomology are as follows:

Master of Science in Zoology

Master of Science in Entomology

Master of Science in Fisheries Management

Master of Science in Game Management

Doctor of Philosophy in Zoology with special emphasis on entomology, fisheries management, game management, or zoology proper.

Comprehensive examinations will be given to all candidates for Master's and Doctoral degrees. Master's degree candidates may receive written examinations at the discretion of the candidate's faculty-advisory committee and will be given an oral examination in the office of the Dean of the Graduate School. All students in the doctoral program will be given comprehensive written and oral qualifying examinations prior to admittance to candidacy for degree. When the thesis work has been completed a final oral examination will be held.

In all of these fields there are opportunities in research, in state experiment stations, government divisions, and commercial organizations. There are other opportunities as extension workers, biologists in Soil Conservation Service, regulatory and inspection service in the U. S. Plant Pest Control Division, as teachers in high schools and colleges, and in state departments of agriculture.

601. Insect Morphology (5). Lec. 2, Lab. 6. Fall. Good
A study of internal and external structures of insects.
602. Advanced Insect Taxonomy (5). Lec. 1, Lab. 8. Spring. Pr., ZY 410. Good
A detailed study of the classification of insects. Special emphasis is placed on the classification of orders and families of insects in which the student is interested.
603. Insect Physiology (5). Lec. 3, Lab. 6. Spring. Pr., ZY 424. Ottis
General and comparative physiology of insects; a survey of the organ systems and their functioning in various insects. Emphasis on research methods and evaluation of data.
604. Insect Toxicology (5). Lec. 4, Lab. 3. Fall. Eden
Toxic action of insecticides; analysis, preparation and use of insecticides; spray residues in relation to health; research methods in insect toxicology.
605. Ornithology (5). Lec. 3, Lab. 6. Spring. Dusi
The taxonomy, ecology, and life history of the birds of southeastern United States.
606. Mammalogy (5). Lec. 3, Lab. 6. Winter. Pr., ZY 420. Dusi
The life history, ecology, and taxonomy of mammals, with special reference to game, fur-bearing, and predator groups; preparation of skins and pelts for study and display.
607. Farm Game Management (5). Lec. 3, Lab. 6. Fall. Pr., ZY 426. Pearson
This course is designed for graduate students majoring in Game Management or Fisheries Management. Application of game management theories, techniques, and administration with special emphasis on farm game species.
608. Forest and Range Game Management (5). Lec. 3, Lab. 6. Winter. Pr., ZY 426. Pearson
For graduate students majoring in Game Management or Fisheries Management. Application of game management theories, techniques, and administration with special reference to forest and range game.
609. Advanced Applied Entomology (5). Lec. 4, Lab. 3. Fall. Pr., ZY 402. Guyton
Methods of insect control including inspection, quarantines, and other legal procedures; insecticidal, biological, and cultural control; principal pests of United States; pests likely to be imported.
610. Immature Forms of Insects (5). Lec. 2, Lab. 6. Winter, odd years. Pr., ZY 410. Hays
Structure and identification of immature forms of insects; methods of collecting and preserving; development and use of keys for classifying immature insects.

611. **Advanced Insect Morphology and Embryology (5).** Lec. 3, Lab. 4. Spring. Pr., ZY 601. Blake
A continuation of ZY 601, stressing specialized structures, nervous system, the special senses, muscular system, reproductive system, and embryological development of insects.
612. **Advanced Insect Toxicology (5).** Lec. 4, Lab. 3. Winter. Pr., ZY 604. Arthur
Mode of action, mode of entry, relation of chemical structure to toxicity, and precision methods of determination of insecticides; recent developments in the field of insecticide chemistry.
615. **Fisheries Biology (5).** Lec. 5, Lab. 0. Winter. Dendy
General survey of U.S. Fisheries resources, biology of commercial species, and a study of the management methods employed.
616. **Systematic Ichthyology (5).** Lec. 1, Lab. 8. Spring. Pr., ZY 413. Dendy
Principles of classification and the construction and utilization of keys for the identification of fishes. The student will be required to collect and identify 50 species.
619. **Management of Impounded Waters (5).** Lec. 1, Lab. 8. Spring. Swingle
Basic principles of water conservation, geochemical cycles and principles underlying fish production. Methods of stocking impounded waters, the use of fertilizers in pond management, and principles underlying plankton production. Field work at the experimental ponds at Auburn and in impoundments located in various parts of the State.
620. **Management of Impounded Waters (5).** Lec. 1, Lab. 8. Summer. Swingle
A consideration of the species of fish in impounded waters, factors affecting their reproduction and growth, species combinations, species balance, pond analysis, renovation of old ponds, fishing experiments, weed and mosquito control, and related problems of water management. Field work will be conducted in the experimental ponds at Auburn, and in the impounded waters located in various parts of Alabama and neighboring states.
621. **Fish Management in Rivers and Large Impoundments (5).** Lec. 1, Lab. 8. Pr., ZY 620. Swingle
Studies of fish populations and their management in rivers and large impoundments with special emphasis on commercial species.
622. **Zoological Literature (5).** Lec. 3, Lab. 6. Winter. Pr., graduate standing. Guyton
A study of zoological literature including journals, indexes, abstracting services, and standard references. For laboratory each student is required to review, abstract, and present written and oral reports on published results of research in his major field.
625. **Comparative Vertebrate Physiology (5).** Lec. 3, Lab. 6. Fall. Pr., ZY 301, ZY 424, and CH 208. Ottis
A study of the evolution of nervous tissues and an analysis of effectors, receptors, central nervous system, autonomic nervous system, and neuro-muscular phenomena in the light of our present knowledge of phylogenetic anatomic and physiologic relationships. Survey of neuro-physiological literature and evaluation of laboratory results will be stressed.
626. **Comparative Vertebrate Physiology (5).** Lec. 3, Lab. 6. Winter. Pr., ZY 625. Ottis
A continuation of ZY 625 with emphasis on the physiology of body fluids and circulation, transport of gases, digestion, kidney function, and reproduction. Research methods and laboratory work will be stressed.
628. **Comparative Vertebrate Endocrinology (5).** Lec. 3, Lab. 6. Spring. Pr., ZY 424. Ottis
The chemistry and physiology of vertebrate hormones with a consideration of the experimental procedures used in the discovery of each of the endocrines. Operative removal of glands and studies of resultant deficiencies will be done in the laboratory.
630. **Advanced Genetics (5).** Lec. 3, Lab. 4. Fall, odd years. Pr., ZY 400. Ivey
A continuation of ZY 400 emphasizing embryological effects, plasmagenes, speciation, effect of environment, biochemical genetics, and cytogenetics.
631. **Advanced Embryology (5).** Lec. 3, Lab. 4. Spring, even years. Pr., ZY 302 and ZY 308. Ivey
Fertilization, mechanism of cleavage, origin of asymmetry, gastrulation, organ-forming substances, cell lineage, effects of centrifugation, parthenogenesis, histogenesis, metabolism of the embryo, and effects of environment will be studied. Laboratory work will be done on chick, frog, insect, mollusk, fish, or other animal of special interest to the student.
632. **Helminthology (5).** Lec. 3, Lab. 6. Spring. Pr., ZY 311. Turner
The morphology, physiology, classification, life cycles, and host-parasite relationships of representative helminths (Cestodes, Trematodes, and Nematodes). Methods of collecting, preserving, staining, mounting, and identification of helminths of local fauna.
634. **Protozoology (5).** Lec. 3, Lab. 6. Winter, even years. Pr., ZY 311. Turner
A study of both free-living and parasitic protozoa important to agriculture, wildlife, and man. Morphology, physiology, reproduction, ecology, and life histories of parasitic forms will be emphasized.

- 635. Furbearer and Waterfowl Management (5).** Lec. 3, Lab. 4. Winter. Pr., ZY 426. Pearson
For graduate students with a major or minor in game management. A study of furbearer and waterfowl resources. Emphasis is placed on problems of management and utilization.
- 636. Animal Ecology (5).** Lec. 3, Lab. 4. Winter. Pr., graduate standing. Hays
A study of the principal environmental factors and their effects on animals. The distribution of animals and their ecological groupings will be a major consideration. At least one extended field trip outside of laboratory hours will be arranged.
- 637. Herpetology (5).** Lec. 3, Lab. 6. Spring, odd years. Pr., ZY 420. Mecham
A study of the morphology, taxonomy, ecology, and behavior of amphibians and reptiles. Laboratory collecting, preserving, and identification of local specimens will be an important consideration.
- 640. Nematology (3).** Lec. 2, Lab. 3. Spring. Pr., ZY 632. Cairns
Advanced study of free-living and plant- and animal-parasitic nematodes. Detailed consideration of aspects of morphology, reproduction, development, responses, physiology, and ecology.
- 641. Field Entomology (3).** Lec.-Dem. 4. Fall or Spring. Pr., graduate standing.
Identification of more important orders, families, and species of insects; a consideration of morphology, physiology, and development of insects; control of major pests. A collection of at least 100 species of economic insects will be required.
- 642. Chemical Control of Insects (3).** Lec.-Dem. 4. Winter. Pr., graduate standing.
Properties of insecticides, including toxic action in living organisms; major uses and methods of application of formulations; hazards involved in handling insecticides; spray residues in relation to marketability of crops.
- 643. Heredity and Evolution (5).** Lec.-Dem. 5. Summer. Pr., 10 hours of general biology, botany, or zoology and teaching experience. Staff
Principles of genetics and evolution as encountered by secondary teachers with emphasis on economic aspects. Common misconceptions regarding heredity and evolution will be discussed.
- 693. Seminar.** Credit to be arranged. Staff
- 698. Special Problems (2-5).** All quarters. Staff
A. Zoology; B. Entomology; C. Apiculture; D. Parasitology; E. Physiology; F. Fisheries Management; G. Wildlife Management.
- 699. Research and Thesis.** Credit to be arranged. Staff
- 799. Doctoral Research and Dissertation.** Credit to be arranged. Staff

Enrollment Statistics

Table I—Enrollment by Classes, Courses and Divisions

SUMMER, FALL, WINTER AND SPRING 1959-60 (as of April 1, 1960)

DIVISION AND COURSE		Freshmen		Sophomores		Juniors		Seniors		5th		Graduates		Special and Unclassified		Total
		M	W	M	W	M	W	M	W	M	W	M	W	M	W	
School of Agriculture																
Agriculture.....		75	3	39		30		27				112	1	37		320
Agricultural Administration.....		15	6	5		5		2						1		29
Agricultural Engineering.....		19	5	5		5		8				6		1		44
Fisheries Management.....																
Forestry.....		126	1	52		33		31				4				246
Game Management.....																1
Ornamental Horticulture.....		9	1	4		2		3								18
Zoological Sciences.....		10	13	9		9	1	5				32	3	14		83
TOTAL.....		254	5	119		84	1	76				154	4	53		740
School of Architecture																
Architecture.....		82	1	59	1	30		18		35				1	1	225
Applied Art.....		72	54	35	26	16	19	21	14			3		3	3	147
Building Construction.....		68		49		40		38				1		1		197
Dramatic Arts.....		2	3		1		1								1	2
Interior Design.....		6	7	4	4	5	8	5	3					1	20	23
Music.....		5	4	2	1		4	2						2	3	11
TOTAL.....		235	69	149	33	91	32	84	17	35		4		4	9	602
School of Chemistry																
Chemistry.....		25	5	11	2	8	4	3				17	1	3		67
Chemical Engineering.....		94	3	52	2	50		46			6	1	4	1	252	6
Laboratory Technology.....		3	21	1	15	1	10	8							1	55
TOTAL.....		122	29	64	19	59	14	49	8		23	2	8	1	325	73
School of Education																
Agricultural Education.....		41		32		21		36				92		10		232
Agricultural Education (Saturday Students).....												1				1
Education.....		95	306	65	216	93	197	76	179			431	520	102	98	862
Education (Saturday Students).....												13	5	3	1	16
Home Economics Education.....		36		30		16		27							4	7
Psychology.....		9	21	13	13	9	5	9	3		13	5	2	1	55	114
TOTAL.....		145	363	110	259	123	218	121	210		550	531	117	104	1166	1685

TOTAL.....

DIVISION AND COURSE

School of Engineering*

	Freshmen		Sophomores		Juniors		Seniors		5th		Graduates		Special and Unclassified		Total	
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W
Aeronautical Administration.....	8		25		30		15						1		79	
Aeronautical Engineering.....	4		46		45		43						2		140	
Civil Engineering.....	11		91	2	63		51				8		2		226	2
Electrical Engineering.....	16		217	1	181	2	145	1			11		2		572	4
Engineering Physics.....	2		34		25		11								72	
Industrial Management.....	20		101		123		159						3		406	
Mechanical Engineering.....	14		138		113		154				18				437	
Textile Chemistry.....					1										1	1
Textile Engineering.....			6		4		1						1		12	
Textile Management.....	1		14		10	2	14	1							39	3
Textile Manufacturing.....	1		2												3	
TOTAL.....	77		674	3	595	5	593	2			37		11		1987	10

School of Home Economics

Home Economics.....	99				72		42		49		1	31	1	20	2	313
---------------------	----	--	--	--	----	--	----	--	----	--	---	----	---	----	---	-----

School of Pharmacy

Pharmacy.....	88	11	64	11	28	4	36	4			4	1			220	31
---------------	----	----	----	----	----	---	----	---	--	--	---	---	--	--	-----	----

School of Science & Literature

Business Administration.....	426	33	278	22	166	9	154	13			9	3	4		1037	80
Pre-Dentistry.....	35		14		5										54	
Pre-Engineering.....	1144	5													1144	5
Pre-Engineering-Management.....	86														86	
Pre-Law.....	36	4	19	3	3		5								63	7
Pre-Medicine.....	44	3	29	2	15	2	4	1					4		96	8
Pre-Veterinary Medicine.....	44	2	15	2	2	1							1		59	5
Nuclear Physics.....	22	1	23	1	12	1	6				4				4	
Physics.....	77	102	79	57	17	26	52	46			9				72	3
Science & Literature.....	1	106	38	38	10	10	5				79	29	16	7	320	267
Secretarial Training.....															1	159
TOTAL.....	1912	256	457	125	220	49	221	65			101	32	25	7	2936	534

School of Veterinary Medicine

Veterinary Medicine.....			55		63	1	55		45		11	1			229	2
GRAND TOTAL.....	2833	832	1692	522	1263	366	1235	355	80		885	602	219	141	8207	2818

* See "School of Science and Literature" for enrollment of first-year students.

Table II—Enrollment of Alabama Students by Counties

SUMMER, FALL, WINTER AND SPRING 1959-60 (as of April 1, 1960)

County	Men	Women	Total	Veterans
Autauga.....	41	28	69	6
Baldwin.....	126	32	158	16
Barbour.....	68	15	83	10
Bibb.....	22	5	27	
Blount.....	36	9	45	6
Bullock.....	22	11	33	3
Butler.....	54	41	95	9
Calhoun.....	119	34	153	20
Chambers.....	175	84	259	47
Cherokee.....	12	4	16	1
Chilton.....	50	22	72	14
Choctaw.....	7	2	9	2
Clarke.....	39	13	52	3
Clay.....	46	23	69	5
Cleburne.....	18	10	28	3
Coffee.....	75	25	100	12
Colbert.....	64	10	74	4
Conecuh.....	31	28	59	3
Coosa.....	21	13	34	2
Covington.....	105	34	139	22
Crenshaw.....	36	17	53	4
Cullman.....	62	27	89	8
Dale.....	83	15	98	16
Dallas.....	93	25	118	9
DeKalb.....	67	29	96	10
Elmore.....	113	78	191	18
Escambia.....	73	28	101	8
Etowah.....	160	63	223	23
Fayette.....	25	6	31	4
Franklin.....	41	8	49	1
Geneva.....	49	17	66	10
Greene.....	7	1	8	
Hale.....	16	3	19	1
Henry.....	41	13	54	3
Houston.....	139	39	178	15
Jackson.....	46	18	64	6
Jefferson.....	1106	423	1529	79
Lamar.....	22	3	25	4
Lauderdale.....	68	11	79	10
Lawrence.....	37	9	46	6
Lee.....	746	279	1025	248
Limestone.....	23	4	27	3
Lowndes.....	23	10	33	2
Macon.....	42	16	58	9
Madison.....	126	47	173	8
Marengo.....	41	17	58	8
Marion.....	33	7	40	1
Marshall.....	73	27	100	9
Mobile.....	445	93	538	53
Monroe.....	50	14	64	3
Montgomery.....	432	158	590	54
Morgan.....	79	30	109	8
Perry.....	19	9	28	4
Pickens.....	19	4	23	4
Pike.....	45	18	63	7
Randolph.....	79	38	117	22
Russell.....	110	57	167	25
St. Clair.....	22	10	32	4
Shelby.....	36	15	51	7
Sumter.....	14	6	20	2
Talladega.....	159	61	220	16
Tallapoosa.....	127	72	199	30
Tuscaloosa.....	24	3	27	7
Walker.....	42	17	59	10
Washington.....	12	6	18	
Wilcox.....	19	12	31	
Winston.....	17	1	18	5
TOTALS.....	6272	2307	8579	972

**Table III—Enrollment of Students by States, Territories
and Foreign Countries**

SUMMER, FALL, WINTER AND SPRING 1959-60 (as of April 1, 1960)

State	Men	Women	Total	Veterans
Alabama.....	6272	2307	8579	972
Arkansas.....	10	11	21	3
California.....	12	3	15	1
Colorado.....	1	1	2	
Connecticut.....	5		5	1
Delaware.....	1		1	1
District of Columbia.....	2		2	
Florida.....	406	72	478	53
Georgia.....	571	224	795	55
Muscogee County, Ga.....	154	82	236	33
Hawaii.....	1		1	1
Illinois.....	10	3	13	1
Indiana.....	2		2	1
Iowa.....	3		3	
Kansas.....	1		1	
Kentucky.....	61	6	67	17
Louisiana.....	29	11	40	4
Maine.....	3		3	
Maryland.....	6	1	7	2
Massachusetts.....	7	1	8	1
Michigan.....	5	1	6	
Minnesota.....	1	1	2	1
Mississippi.....	115	20	135	18
Missouri.....	6		6	2
Montana.....		2	2	
Nevada.....	1		1	1
New Jersey.....	13	1	14	3
New Mexico.....	1		1	
New York.....	22	4	26	5
North Carolina.....	28	4	32	2
North Dakota.....	1		1	
Ohio.....	11	1	12	4
Oklahoma.....	5	2	7	1
Oregon.....	1		1	
Pennsylvania.....	7	4	11	2
Rhode Island.....	3		3	
South Carolina.....	66	8	74	5
South Dakota.....	1		1	1
Tennessee.....	194	22	216	22
Texas.....	14	4	18	4
Utah.....	2		2	
Virginia.....	23	6	29	4
Washington.....	1		1	
West Virginia.....	4		4	
Wisconsin.....		1	1	
Wyoming.....	1		1	1
TOTALS—Other States.....	1811	496	2306	249
TOTALS—All States.....	8083	2804	10887	1222
U.S. Territories	Men	Women	Total	Veterans
Canal Zone.....	7		7	
Puerto Rico.....	5	1	6	
TOTALS.....	12	1	13	

Table III—Enrollment of Students by States, Territories and Foreign Countries

(Continued)

SUMMER, FALL, WINTER AND SPRING 1959-60 (as of April 1, 1960)

Foreign Countries	Men	Women	Total	Veterans
Bahamas.....	1		1	
Brazil.....	1		1	
Canada.....	1		1	
China.....	5	2	7	
Colombia.....	4		4	
Cuba.....	23	3	26	
Dominican Republic.....	4		4	
Egypt.....		1	1	
El Salvador.....	1		1	
France.....	1		1	
Germany.....	2		2	
Greece.....	2	1	3	
Guatemala.....	4		4	
Hungary.....	2		2	
India.....	7		9	
Iran.....	10	2	10	
Iraq.....	4		4	
Israel.....	1		1	
Japan.....		1	1	
Jordan.....	2	1	3	
Korea.....	4	2	6	
Lithuania.....	1		1	
Mexico.....	2		2	
Netherland Antilles.....	1	1	2	
Norway.....	1		1	
Pakistan.....	5		5	
Panama.....	10		10	
Peru.....	2		2	
Philippine Islands.....	4		4	
Syria.....	4		4	
Thailand.....	1		1	
Venezuela.....	2		2	
TOTALS.....	112	14	126	

General Summary of Enrollment 1959-60**SUMMER, FALL, WINTER AND SPRING 1959-60 (as of April 1, 1960)**

	Men	Women	Total
Regular Session (June 1959-April 1960).....	8,207	2,818	11,025
Correspondence Study Division:			
Correspondence Courses.....	678	855	1,533
Short Courses:			
4-H Club Conference.....	325	331	656
Farm Bureau Training School.....	200	90	290
Home Agents Program Planning Meeting.....		141	141
News Agents Training.....		22	22
Thirteenth Annual Pest Control Conference.....	211	4	215
Alabama Nutrition Conference.....	50	0	50
Farmers' Cooperative Short Course.....	150	0	150
Farm Credit Clinics.....	255	0	255
Alabama Agricultural Credit Conference.....	125	5	130
Dairy Herd Improvement Association Conference.....	290	0	290
Alabama Fertilizer Conference.....	120	0	120
Florists' Short Course.....	5	42	47
Cotton Irrigation Short Course.....	60	0	60
Soil Fertility Short Course.....	120	0	120
Nurseryman and Landscape Gardners' Short Course.....	29	5	34
Annual Veterinary Conference.....	182	20	202
Special Veterinary Conference (Post Graduate).....	13	0	13
Physical Testing Clinic.....	75	0	75
Alabama Textile Operating Executive Conference.....	800	0	800
Quality Control Clinic.....	60	0	60
Alabama Textile Education Foundation.....	40	0	40
TOTAL.....	11,995	4,333	16,328

General Index

GENERAL INDEX

Page

Page

Absence, Leave of	76
Academic Regulations	68
Accounting	179
Administration, Officers of	6
Administration and Supervision, Courses in	245
Administrative Council	4
Admission Advanced Standing	66
Freshmen	66
Graduate Standing	66
New Students, Tests	65
Special Requirements	66
Special Students	67
War Training Credit	73
Advanced ROTC Course	166
Advertising Design	118
Aeronautical Administration Curriculum	151
Aeronautical Engineering Curriculum	152
Description of Courses	200
AFROTC	110
Description of Courses	210
Agricultural Administration Curriculum	101
Agricultural Economics	201
Agricultural Education Curriculum	142
Description of Courses	204
Agricultural Engineering Curriculum	102
Description of Courses	205
Agricultural Experiment Station Staff	7, 45
Substations	64
Fields	64
Agricultural Extension Staff	51
Agricultural Home Economics Extension	7
Agricultural Science Curriculum	97
Agronomy and Soils	98
Description of Courses	207
Animal Husbandry and Nutrition	98
Description of Courses	211
Announced Quizzes	70
Architecture	113
Curriculum	113
Description of Courses	213
Art Curriculum	118
Description of Courses	216
Attendance, Class	74
Auburn Research Foundation	190
Auburn Union, The	92
Auditing Fee	80
Auditing Privileges	69
Aviation, Auburn School of	148
Back Work	68
Band	93
Boarding	81, 82
Botany and Plant Pathology	106, 218
Building Construction Curriculum	116
Building Technology	116
Description of Courses	221
Buildings	61
Business Administration Curriculum	179
Calendar, 1960-61	2, 3
Campus, The	61
Certificates to Teach	79, 131
Change in Course Fee	80
Change in Program of Studies	68
Fees	80
Chemical Engineering Curriculum	127
Description of Courses	223
Chemistry Curriculum	126
Description of Courses	224
Chemistry Breakage Card	80

Civil Engineering Curriculum	153
Description of Courses	226
Class Attendance	74
Classification	68
Clothing and Textiles Curriculum	164
Description of Courses	262
Club Work and Lecture Service, Extension	192
College Council and Committees	4
Commencement Speakers	44
Committees of the Faculty	4
Concert and Lecture Series	89
Contents	1
Co-operative Program	86
Building Construction	117
Business Administration	177
Engineering	148
Correspondence and Extension Courses	71
Fee	80
Council of Deans	4
Counseling Service	87
County Workers	53
Curricula and Schools	95
Dairy Husbandry	229
Dairy Manufacturing	99
Description of Courses	229
Dairy Production	100, 229
Deans and Heads of Schools	6
Departmental Organizations	90
Deferments Selective Service	73, 168, 172
Universal Military and Service Act	112
Deficiencies, Mid-Quarter	71
Degree Requirements	77
Degrees Conferred	76
Discipline	74
Doctoral Dissertation Microfilming Fee	82
Dramatic Arts	121, 230
Drawing, Engineering	250
Economics	231
Economics, Agricultural	201
Education Curriculum	133
Description of Courses	236
Education Interpretation Service	133
Educational Benefits for Veterans	67
Educational Television	193
Staff	7
Electrical Engineering Curriculum	154
Description of Courses	247
Elementary School Curricula	134
Description of Courses	236
Employment Service, Student	86
Engineering	146
Curriculum	150
Engineering Graphics	250
Engineering Experiment Station	7, 149
Engineering Extension Service	147
Engineering Physics Curriculum	156
English	251
English Requirements	70
Enrollment, Late	68
Enrollment Statistics	321
Entomology Curriculum	108
Description of Courses	315
Entrance Requirements	65
Examinations and Reports	70
Expenses and Fees	79
Experiment Station Staff	45
Extension and Correspondence Courses	71

GENERAL INDEX

	Page		Page
Extension Teaching Service	192	Illustration	120
Agricultural Staff	51	Index by Fields of Instruction	195
Teaching Centers	192	Independent Organization, Auburn	93
Faculty	8	Industrial Design Curriculum	120
Faculty Committees	4	Industrial Laboratories	269
Family Life		Industrial Management	
Curriculum	165	Curriculum	157
Description of Courses	263	Description of Courses	270
Fashion Illustration	119	Information, General	59
Federal and State Vocational		In-Service Agricultural Education	
Rehabilitation Aid	86	and Supervision	133
Fees and Expenses	79	Instruction, Officers of	8
Fees Refunded	81	Interior Design Curriculum	115
Fisheries Management	108	Intramural Sports	89
Foods and Nutrition		Italian	255
Curriculum	164	Journalism	271
Description of Courses	264	Laboratory Technology	
Foreign Languages	254	Curriculum	129
Forest Management and Administration	105	Description of Courses	272
Forestry		Language and Literature Major	178
Curriculum	104	Late Enrollment	68
Description of Courses	256	Late Registration, Fee	79
Fraternities		Laundry and Dry Cleaning	80
Professional and Honorary	89	Leadership Organizations	90
Social	91	Leave of Absence	76
French	254	Lecture and Concert Series	89
Freshman Tests	66	Libraries	194
Game Management	109	Library Science	272
General Elective Courses	196	Living Accommodations	
General Horticulture	266	Men Students	83
General Information	59	Women Students	84
General Officers	6	Married Students	84
Geography	233	Location	59
German	255	Load, Student	69
Glee Clubs	93	Married Students, Housing	84
Government	60	Mathematics	181
Government & History	259	Mechanical Engineering	
Government, Student	91	Curriculum	158
Grading System	69	Description of Courses	275
Graduate Assistants	31	Men Students, Housing	83
Graduate Council	4	Microscope, Purchase	81
Graduate Placement Service	78	Military Science and Tactics	166
Graduate School	188	Description of Courses	277
Graduate School Fellowships		Music	122
and Assistants	86	Description of Courses	278
Graduate Standing	66	Fee	81
Graduate Student Fees	81, 82	Organizations	93, 125
Graduate Work		Naval Science	169
Art	121	Curriculum	172
Education	132, 144	Description of Courses	172
Home Economics	163	Equipment	171
Music	125	Financial Aid	86
Graduation Fee	80	New Students, Special Tests	65
Graduation with Honor	77	Non Resident Students	67
Grant-in-Aid Research Program	189	Fee	80
Handling Charges	79	Nursery Education	
Health Service, Student	87	Curriculum	165
High School, Summer	78	Description of Courses	263
Historical Statement	59	Nursery School and Kindergarten Fee	82
History and Government	259	Laboratory	163
Home Economics	162	Nursing Science	
Curriculum	163	Curriculum	165
Description of Courses	261	Oak Ridge Institute, Research Program	189
Field Training Fee	79	Officers of Administration	6
Home Economics Education		Officers of Instruction	8
Curriculum	139	Opera Workshop	94
Description of Courses	236	Orchestra	93
Home Management		Organizations	89, 90, 93, 125
Curriculum	164		
Description of Courses	265		
Honorary Organizations	89		
Horticulture	100, 266		

GENERAL INDEX

	Page		Page
Ornamental Horticulture		Schools and Curricula	95
Curriculum	104	Schools—Division of College	
Description of Courses	267	Agriculture	97
Out of State Students	67	Air Science	110
		Architecture and The Arts	113
Painting	121	Chemistry	126
Pharmacy	173	Education	131
Breakage Card	80	Engineering	146
Curriculum	173	Home Economics	162
Description of Courses	280	Military Science & Tactics	166
Philosophy	287	Naval Science	169
Physical Education	72	Pharmacy	173
Physical Education & Athletics for Men		Science & Literature	176
Description of Courses	288	Veterinary Medicine	184
Physical Education for Women		Graduate School	188
Description of Courses	289	Secondary Education	
Physical & Health Education		Curriculum	134
Curriculum	136	Description of Courses	237
Description of Courses	236	Secretarial Training	
Physics		Curriculum	180
Curriculum	182	Description of Courses	300
Description of Courses	293	Selective Service Deferments	73, 168, 172
Pilot & Private Instruction Fee	80	Service Organizations	90
Special Training Fee	81	Short Courses, Extension	192
Plant Pathology	218	Social Science Major	179
Portuguese	255	Sociology	301
Poultry Husbandry	101	Sororities & Fraternities, Social	91
Description of Courses	295	Sources of Revenue	60
Pre-Dentistry	182	Spanish	255
Pre-Engineering	149	Speakers, Commencement	44
Pre-Law	179	Special Examination Fee	80
Pre-Medicine	182	Special Regulations	74
Pre-Pharmacy	174	Special Services, Education	132
Pre-Veterinary Medicine	182	Special Student Fee	80
Professional Organizations	90	Speech	138, 303
Psychology	144	Sports, Intramural	89
Description of Courses	297	Staff	35
Publications, Student	92	State Regulatory Service	58
		State Veterinary Diagnostic Laboratory	58
Quizzes, Announced	70	Statistics, Students	321
		Student Government	91
Re-Examination Fee	80	Student Health Service	87
Registration Fees Refunded	81	Student Life & Activities	87
Regulations		Student Load	69
Academic	68	Student Publications	92
Special	74	Students	
Religious Education	300	Employment Service	86
Religious Organizations	92	Guidance Service	87
Reports and Examinations	70	Non-Residence	67
Requirements	65	Special	67
Certificates to Teach	79	Women	65
Degree	77	Studies, Change in Program	68
English	70	Substations, Experiment	64
Minimum for Continuation of Residence	74	Summer High School	78
Residence for Degree	78	Summer Quarter for Teachers	78
Special	66		
Research Foundation, Auburn	190	Teacher's Certificates	79, 131
Research Programs	188	Teachers, Summer Quarter for	78
Residence, Continuation of	74	Teaching and Research Fellows	31
Resignation	71	Teaching Training in Service, Extension	193
Revenue, Sources of	60	Technical Organizations	90
Room and Board		Television, Educational	193
Fee and Charges	81, 82	Tests, New Students	65
Room Reservations	82	Textile Management Curriculum	160
ROTC	72, 166, 277	Textile Science	161
Uniform & Equipment	80, 167	Textile Technology	159
Russian	256	Description of Courses	305
		Thesis	77
Scholarships & Loans	86	Fee	81
Scholastic Regulations	68	Training Schools	132
Science & Literature	176	Transfer Students	68
Curriculum	177	Transcript Fee	80
Science Major	178	Trustees	4
		Uniforms	
		AFROTC	111
		NROTC	171
		ROTC	80, 167

GENERAL INDEX

	Page		Page
Veterans		Vocational Home Economics	
Credit in Physical Education	73	Curriculum	139
Educational Benefits	67	Description of Courses	236
Living Accommodations (Married)	84		
War Training Credit	73	War Training Credit	73
Veterinary Medicine	184	Women Students	65
Curriculum	186	Housing	84
Description of Courses	307	Wood Utilization	106
Internship Fee	82		
Microscope Purchase	81	Zoology	
Special Regulations	76	Curriculum	107
Vocational Agriculture		Description of Courses	315
Curriculum	142		
Description of Courses	204		
Vocational Rehabilitation Service	133		